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### ENUMERATION OF THE LIGNEOUS PLANTS OF NORTHERN CHINA, III<sup>1</sup>

ALFRED REHDER

(Plate 2)

#### LEGUMINOSAE TO SAPINDACEAE

##### LEGUMINOSAE

*Albizia julibrissin* Durazzini in Mag. Tosc. iii. pt. iv. 11 (1772).—Debeaux in Act. Soc. Linn. Bordeaux, xxxi. 147 (Fl. Tché-foû, 52) (1876).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 254 (Pl. David. i. 102) (1883); in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 214 (1884).—Hemsley in Jour. Linn. Soc. xxiii. 216 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 53 (1898).—Faber in Denkschr. Entwick. Kiautschou, 33 (1898).—Harms in Bot. Jahrb. xxix. 409 (1900); xxxiv. beibl. lxxv. 41 (1904).—Harms & Loesener in Bot. Centralbl. Beih. xxxvii. pt. ii. 137 (1919).—Bailey, Gent. Herb. i. 31 (1920).—Hers in Jour. N. China Branch R. As. Soc. liii. 106 (1922); Liste Ess. Lign. Honan Sept. 2 (1922).

*Acacia nemu* Willdenow, Spec. iv. 1065 (1806).—Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. ii. 95 (Enum. Pl. Chin. Bor. 21) (1833).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 471 (Ind. Fl. Pekin.) (1859).

CHILI: Peking, *C. A. Skatschkoff*, about 1850 (Gray Herb.), cultivated, *C. S. Sargent*, Sept. 18, 1903; Ch'a tao, *J. Hers*, no. 1542, July 23, 1921.—See also Franchet, l. c. (1883), Hemsley, l. c., Bretschneider, l. c., Bunge, l. c., Maximowicz, l. c.

SHANTUNG: Tientsin, *F. N. Meyer*, no. 1001, June 12, 1913; *H. H. Chung*, no. 47, October 3, 1920.—See also Debeaux, l. c., Franchet, l. c. (1884), Faber, l. c., Harms, l. c. (1904), and Harms & Loesener, l. c.

HONAN: Chi kung shan, Hupeh border, *L. H. Bailey*, June 30, 1917.—See also Bailey, l. c., and Hers, l. c.

SHENSI: Sian fu plain, *W. Purdom*, no. 959, in 1910.—See also Harms, l. c. (1900).

DISTRIBUTION: also Persia to Japan, the Philippine Islands and the Himalayas; much planted in all tropical and subtropical countries.

<sup>1</sup> For Part II, see Vol. V, p. 137.

*Albizzia kalkora* Prain in Jour. As. Soc. Bengal, LXVI. 511 (1897); Novic. Ind. 345 (1905).—Schneider in Sargent, Pl. Wilson. III. 446 (1917).—Hers in Jour. N. China Branch R. As. Soc. LIII. 106 (1922); Liste Ess. Lign. Honan. Sept. 2 (1922).—Chung in Mem. Sci. Soc. China, I. 105 (Cat. Trees Shrubs China) (1924).

*Acacia macrophylla* Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 135 (Enum. Pl. Chin. Bor. 61) (1863).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 471 (Ind. Fl. Pekin.) (1859).

*Albizzia Lebbeck* Hemsley in Jour. Linn. Soc. XXIII. 216 (1887), pro parte.—Faber in Denkschr. Entwickl. Kiautschou, 33 (1898).—Harms in Bot. Jahrb. XXIX. 408 (1900); XXXIV. beibl. LXXV. 41 (1904).—Harms & Loesener in Bot. Centralbl. Beih. XXXVII. pt. II. 137 (1919).—? Bailey, Gent. Herb. I. 31 (1922).—Non Benth.

*Acacia Lebbeck* Bretschneider, Hist. Eur. Bot. Discov. China, 332 (1898).—Non Willdenow.

*Albizzia* sp. Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Inv. Seeds Pl. Imp. XIV. 29 no. 21969 (1909).

CHILI: near Peking (ex Bunge, l. c.).—See also Chung, l. c., Maximowicz, l. c., and Bretschneider, l. c.

SHANTUNG: Chifu, in garden, C. S. Sargent, September 22, 1903; Chifu, N. H. Cowdry, no. 558, June, 1920; Boshan, F. N. Meyer, no. 257, September, 1907; Tsingtau, R. Zimmermann, no. 211, in 1901.—See also Harms, l. c. (1904), Faber, l. c., Harms & Loesener, l. c., Bretschneider, l. c., Meyer, l. c., and Chung l. c.

HONAN: Sung Hsien, Manyu, alt. 900 m., J. Hers, no. 116, October 8, 1919; Teng feng hsien, Yu tai shan, alt. 500 m., J. Hers, no. 266, June 17, 1919; Tsi yuan hsien, alt. 500 m., J. Hers, no. 2660, August 22, 1923; Tsi yuan hsien, Pei ting shan, J. Hers, no. 2802, October 10, 1923; Cheng chow, planted (introduced from the hills), J. Hers, no. 2884, May 25, 1924. Without precise locality J. Hers no. 12 in 1918.—See also Hers, l. c., Bailey, l. c., and Chung, l. c.

NORTHERN KIANGSU: Siao hsien, Huang tsang yu, J. Hers, no. 1047, May 26, 1919; Suchow fu, Huang tsang yu, J. Hers, nos. 1073, 2811, November 1, 1919 and October 15, 1923.

SHENSI: Tai pei shan, G. Giraldi, no. 1607 (ex Harms, l. c.).

DISTRIBUTION: also Hupeh, Kiangsi, Hunan, Fukien, to Khasia and Naga Hills.

*Cercis chinensis* Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 95 (Enum. Pl. Chin. Bor. 21) (1833).—Hemsley in Jour. Linn. Soc. XXIII. 213 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 332 (1898).—Faber in Denkschr. Entwickl. Kiautschou, 33 (1898).—Harms in Bot. Jahrb. XXIX. 409 (1900); XXXIV. beibl. LXXV. 41 (1904).—Harms & Loesener in Bot. Centralbl. Beih. XXXVII. pt. II. 138 (1919).—Hers in Jour. N. China Branch R. As. Soc. LIII. 108 (1902); Liste Ess. Lign. Honan Sept. 7 (1922).—Chung in Mem. Sci. Soc. China, I. 106 (Cat. Trees Shrubs China) (1924).

CHILI: cultivated in Peking (ex Bunge, l. c.).—See also Bretschneider, l. c., and Chung, l. c.



HONAN: Teng feng, Yu tai shan, alt. 800 m., *J. Hers*, no. 291, June 17, 1919; Yung ning, Tsi li ping, alt. 1100 m., *J. Hers*, no. 404, May 22, 1919; Sung hsien, San kuan miao, alt. 1200 m., *J. Hers*, no. 525, May 24, 1919; Sung hsien, Shih tze miao, *J. Hers*, no. 579, May 26, 1919.—See also *Hers*, l. c., and *Chung*, l. c.

SHANTUNG: in villages near Tsing tau (cultivated?) (ex *Harms*, l. c. (1904), and *Harms & Loesener*, l. c.).—See also *Faber*, l. c., *Harms*, l. c., *Harms & Loesener*, l. c., and *Chung*, l. c.

SHENSI: Thui kio tseun, *G. Giraldis*, September 25, 1897; Meng kia yuan, alt. 850 m., *J. Hers*, no. 2443, October 10, 1922; Hua shan, alt. 500–1000 m., *J. Hers*, no. 3042, October 31, 1924.—See also *Harms*, l. c. (1900), and *Chung*, l. c.

KANSU: Yu yin chen, alt. 900 m., *F. N. Meyer*, no. 1953, September 25, 1914; Fu orr yei, alt. 1300 m., *F. N. Meyer*, no. 1642, October 7, 1914.—See also *Chung*, l. c.

DISTRIBUTION: also Kiangsu, Anhwei, Fukien, Hupeh, Szechuan, Kweichou.

*Bauhinia Faberi* Oliver in Hooker's Icon. xviii. t. 1790 (1888).—Farrer in Jour. Roy. Hort. Soc. XLII. 61 (1916).—Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Inv. Seeds Pl. Imp. XLIII. 69, no. 40708 (1918).

KANSU: near Chieh chow *F. N. Meyer*, no. 1797, October 10, 1914, (Herb. U. S. Dept. Agric.).—See also *Farrer*, l. c., and *Meyer*, l. c.

DISTRIBUTION: also Szechuan and Hupeh.

*Cassia mimosoides* Linnaeus, Spec. 379 (1753).

This species and also *C. occidentalis* L. which both occur in northern China are sometimes enumerated as woody plants but they are annuals or short-lived perennials somewhat woody only at base; they are widely distributed weeds of tropical and subtropical countries.

*Gleditsia horrida* Makino in Tokyo Bot. Mag. xvii. 12 (1903).—*Chung* in Mem. Sci. Soc. China, I. 107 (Cat. Trees Shrubs China) (1924).

*Gleditsia japonica* Miquel in Ann. Mus. Bot. Lugd.-Bat. III. 54 (1867); Prol. Fl. Jap. 242 (1867).—*Harms & Loesener* in Bot. Centralbl. Beih. xxxvii. pt. II. 138 (1919).

? *Gymnocladus Williamsii* Hance in Jour. Bot. xxii. 336 (1884).

? *Gleditschia* Faber in Denkschr. Entwick. Kiautschou, 33 (1898).

CHILI: Po hua shan, *J. Hers*, no. 1410, May 1, 1921 (flowers).—See also *Hance*, l. c.

SHANTUNG: near Chifu, *C. S. Sargent*, September 22, 1903 (fruit).—See also *Loesener*, l. c., and *Chung*, l. c.

NORTHERN KIANGSU: Suchow fu, Huang tsang yu, *J. Hers*, no. 1074, November 1, 1919.

DISTRIBUTION: also Japan and Korea.

I have seen no fruiting specimens from Chili and do not feel absolutely sure that *Hers*' no. 1410 which is in flower belongs here, but it agrees in its leaf characters with this species, while his no. 1415 collected in the

same locality and likewise in flower, apparently belongs to the following species. *Gymnocladus Williamsii* according to the description seems to belong here rather than to *G. sinensis* where it was placed by Hemsley.

*Gleditsia sinensis* Lamarek, Encycl. Méth. II. 465 (1786).—Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 95 (Enum. Pl. Chin. Bor. 21) (1833).—Turczaninow in Bull. Soc. Nat. Moscou, x. no. VII. 151 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 471 (Ind. Fl. Pekin.) (1859); in Bull. Acad. Sci. St. Pétersb. XXX. 38 (1886); in Mém. Biol. XII. 453 (1886).—David, Jour. Trois. Voy. Emp. Chin. I. 94 (1875).—Hemsley in Jour. Linn. Soc. XXIII. 209 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 49, 52, 451, 849 (1898).—Harms in Bot. Jahrb. XXXVI. beibl. LXXXII. 57 (1905).—Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Seeds Pl. Imp. Inv. XIV. 50, no. 22376 (1909); XXXV. 60, no. 35616 (1915).—Bailey, Gent. Herb. I. 31 (1920).—Hers, in Jour. N. China Branch R. As. Soc. LIII. 111 (1922); Liste Ess. Lign. Honan Sept. 14 (1922).—Limpricht, Bot. Reis. Hochgeb. Chin. Ost-Tib. 415 (1922).—Chung in Mem. Sci. Soc. China, I. 107 (Cat. Trees Shrubs China) (1924).

*Gleditschia xylocarpa* Hance in Jour. Bot. XXII. 366 (1884).—Maximowicz in Bull. Acad. Sci. St. Pétersb. XXXI. 39 (1886); in Mém. Biol. XII. 453 (1886).

CHILI: near Ying tau ko, *F. N. Meyer*, no. 1301, September 13, 1913; Men tow kow, *N. H. Cowdry*, no. 488, June 8, 1920; Po hua shan, *J. Hers*, no. 1415, May 1, 1921.—See also Maximowicz, l. c., Bretschneider, l. c., Meyer, l. c., and Limpricht, l. c.

SHANTUNG: Tsi nan fu, *F. N. Meyer*, in 1913 (fruits only).—See also Meyer, l. c., and Chung, l. c.

HONAN: Tze kien, alt. 600 m., *J. Hers*, nos. 71–75, October 1, 1919; Sung hsien, San kuan miao, *J. Hers*, no. 513, May 24, 1919; Kio shan, *L. H. Bailey*, June 22, 1917.—See also David, l. c., Bretschneider, l. c. 849, Bailey, l. c., Hers, l. c., and Chung, l. c.

SHENSI: *P. J. Piasezki* (ex Maximowicz, l. c.), and *G. Giraldis* (ex Harms, l. c.).

DISTRIBUTION: also Chekiang and Szechuan.

This species differs from the preceding in the shorter straight or only slightly curved, not twisted, thicker pods with woody walls and in the generally fewer firmer leaflets distinctly reticulate beneath. *Gleditsia macracantha* Desf. with which it has been sometimes confused is distinguished by the pubescent ovary and the larger leaflets.

*Gleditsia heterophylla* Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 95 (Enum. Pl. Chin. Bor. 21) (1833).—Turczaninow in Bull. Soc. Nat. Moscou, x. no. VII. 151 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 471 (Ind. Fl. Pekin.) (1859); in Bull. Acad. Sci. St. Pétersb. XXXI. 40 (1886); in Mém. Biol. XII. 453 (1886).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 254 (Pl. David I. 102) (1883); in Mém. Soc. Sci. Nat. Cherbourg, XXIV. 214 (1884).—Hemsley in Jour.



Linn. Soc. xxiii. 209 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 332 (1898).—Hers. in Jour. N. China Branch R. As. Soc. LIII. 111 (1922); Liste Ess. Lign. Honan Sept. 14 (1922).

*Gleditsia* sp. Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Seeds Pl. Imp. Inv. xiv. 50, no. 22377 (1909).

CHILI: Po hua shan, *J. Hers*, nos. 1683, 1684, September 9, 1921.—See also Bunge, l. c., Turczaninow, l. c., Maximowicz, l. c., Franchet, l. c. (1883), Bretschneider, l. c., Hemsley, l. c. and Meyer, l. c.

SHANTUNG: near Tsing tau, *F. N. Meyer*, no. 245, September, 1907; Lung tung, *F. N. Meyer*, no. 246, September 25, 1907.—See also Franchet, l. c. (1884).

HONAN: Kung hsien, *J. Hers*, nos. 49, 50, June 1, 1919; Tze kien, extremely common in the loess region between alt. 100–600 m., *J. Hers*, no. 76, October 1, 1919; Hwei hsien, Ta fu sze, *J. Hers*, no. 777, June 16, 1919.—See also Hers, l. c.

DISTRIBUTION: endemic.

*Caesalpinia sepiaria* Roxburgh, Fl. Ind. ii. 360 (1824).—Hemsley in Jour. Linn. Soc. xxiii. 206 (1887).—Harms in Bot. Jahrb. xxix. 410 (1900); xxxvi. beibl. lxxxii. 57 (1905).

*Caesalpinia* sp. Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Seeds Pl. Imp. Inv. xv. 52, no. 22980 (1909).

NORTHERN KIANGSU: Suchow, *F. N. Meyer*, no. 337, April 26, 1908 (seeds; plants raised from this seed cultivated in Chico, Calif.).

HONAN: Hwang shan po and Likia chai, *J. Hers*, no. 1601, May 1, 1920.

SHENSI: *P. J. Piasezki* (ex Hemsley, l. c., and Harms, l. c. [1900]) and *G. Giraldi* (ex Harms, l. c. [1905]).

DISTRIBUTION: Tropical Asia; naturalized in tropical Africa, America, Hawaii and probably elsewhere.

*Sophora japonica* Linnaeus, Mant. i. 68 (1767).—Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. ii. 89 (Enum. Pl. Chin. Bor. 15) (1833).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 470 (Ind. Fl. Pekin.) (1859).—Debeaux in Act. Soc. Linn. Bordeaux, xxxiii. 39 (Fl. Tien-tsin, 16) (1879).—Hemsley in Jour. Linn. Soc. xxiii. 202 (1887).—Faber in Denkschr. Entwick. Kiautschou, 33 (1898).—Bretschneider, Hist. Eur. Bot. Discov. China, 48, 158, 167, 226, 227, 451 (1898).—Kanitz in Szechenyi, Keletasz. Utján. Tudom. Ered. ii. 1806 (Pl. Enum. 19) (1891); in Szechenyi, Wiss. Ergeb. Reise Ostas. ii. 695 (1898).—Harms & Loesener in Bot. Centralbl. Beih. xxxvii. pt. ii. 138 (1919).—Hers in Jour. N. China Branch R. As. Soc. LIII. 115 (1922); Liste Ess. Lign. Honan Sept. 29 (1922).—Limpricht, Bot. Reis. Hochgeb. Chin. Ost.-Tib. 416 (1922).—Chung in Mem. Sci. Soc. China, i. 109 (Cat. Trees Shrubs China) (1924).

CHILI: Temple of Confucius, *C. S. Sargent*, September 15, 1903; San tun ying, *F. N. Meyer*, no. 963, May 29, 1913; Peking, Temple of Heaven,

*J. Hers*, nos. 1948–1955, August 13, 1922; Peking, own garden, *J. Hers*, nos. 1956–1959, August 13, 1922; Feng tai near Peking, *J. Hers*, nos. 1960–1963, 1965–1969, 1976, 1978, August 13, and 18, 1922.—See also Bunge, l. c., Maximowicz, l. c., Debeaux, l. c., Bretschneider, l. c., Hemsley, l. c., Limpricht, l. c., and Chung, l. c.

SHANTUNG: *G. L. Staunton* (ex Hemsley, l. c.).—See also Faber, l. c., and Harms & Loesener, l. c.

HONAN: Cheng chow, *J. Hers*, nos. 1934–1945, July 20, 1922; Kwan yin tang, alt. 600 m., *J. Hers*, nos. 1985, 1986, 1989, August 26, 1922; Kwei teh, *J. Hers*, no. 1988, August 28, 1922.—See also Hers, l. c.

KANSU: near "Czing-csou," *L. Loczy* (ex Kanitz, l. c.); *P. J. Piasezki* (ex Hemsley, l. c.).—See also Chung, l. c.

DISTRIBUTION: throughout China; also in Korea; planted in Japan.

According to Mr. J. Hers the Chinese distinguish three kinds of *S. japonica* according to the color of the wood: the pai kuai or white Sophora, the tow tsing kuai or bean-green Sophora and the hei kuai or black Sophora. The white form gives the best wood, the black the least valuable (See vol. III. 34 of this Journal). The herbarium specimen from trees of these three forms do not show the slightest difference, but it may be mentioned that the specimens representing the var. *pubescens* Bosse all belong to the white Sophora.

*Sophora japonica* f. *pendula* Hort. apud Loudon, Arb. Brit. II. 564 (1838), as [var.]—Kanitz in Szechenyi, Keletasz. Utján. Tudom. Ered. II. 807 (Pl. Enum. 19) (1891); in Szechenyi, Wiss. Ergeb. Reise Ostas. II. 695 (1898), as γ. —Hers in Jour. N. China Branch R. As. Soc. LIII. 116 (1922); Liste Ess. Lign. Honan Sept. 29 (1922).

HONAN: cultivated (ex Hers, l. c.).

KANSU: cultivated ? (ex Kanitz, l. c.).

DISTRIBUTION: planted occasionally in other provinces of China.

*Sophora japonica* f. *oligophylla* Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 25 (Pl. David. I. 100) (1883), as var.

CHILI: near Peking, *A. David* (ex Franchet, l. c.).

HONAN: Cheng chow, *J. Hers*, no. 1947, July 20, 1922.

I have little doubt that Hers' no. 1947 is identical with Franchet's variety which is apparently a monstrous garden form. The leaves have only 3–5 crowded leaflets of unequal size and irregular shape, the middle leaflets often 3-lobed and the lateral ones often with a large lobe on the lower side; the upper surface is minutely pubescent and the lower surface covered with accumbent villose hairs pilose on the veins, as in var. *pubescens*.

*Sophora japonica* var. *pubescens* Bosse, Vollst. Handb. Blumengärt. ed. 2, III. 408 (1842), as γ.—Rehder in Jour. Arnold Arb. III. 32 (1921).

CHILI: Peking, *S. W. Williams*, August 1876 (Gray Herb.); Fengtai near Peking, *J. Hers*, nos. 1975, 1977, August 18, 1922.



HONAN: Cheng chow, *J. Hers*, no. 1946, July 20, 1922.

DISTRIBUTION: also Kiangsu, Hupeh, Szechuan; Korea.

Of *S. japonica* var. *violacea* Carrière I have seen no specimens from China; it differs from the typical form in the flowers having the wings and keel tinged purplish and, at least in the cultivated plant, appearing later than those of the typical form.

*Sophora viciifolia* Hance in Jour. Bot. XIX. 209 (1881).—Hooker f. in Bot. Mag. CXXIX. t. 7883 (1903).—Farrer in Jour. Roy. Hort. Soc. XLII. 111 (1916).—Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Inv. Seeds Pl. Imp. XLIII. 69, no. 40707 (1918).—Hers in Jour. N. China Branch R. As. Soc. LIII. 116 (1922); Liste Ess. Lign. Honan Sept. 29 (1922).—Chung in Mem. Sci. Soc. China, I. 109 (Cat. Trees Shrubs China) (1924).

*Sophora Moorcroftiana* var. *Davidi* Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 253, t. 14 (Pl. David. I. 101) (1883).—Bretschneider, Hist. Eur. Bot. Discov. China, 860 (1898).

*Sophora Moorcroftiana* Kanitz in Math.-Naturwiss. Ber. Ungarn, III. 7 (1885); in Szechenyi, Kelatazs. Utján. Tudom. Ered. II. 806 (Pl. Enum. 19) (1891); in Szechenyi, Wiss. Ergeb. Reise Ostas. II. 695 (1898).—Harms in Bot. Jahrb. XXXVI. beibl. LXXXII. 57 (1905).

*Caragana chamlagu* ? Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Seeds Pl. Imp. Inv. XIV. 29, no. 21967 (1909).

CHILI: Peking, purchased from a flower vender, *F. N. Meyer*, no. 924, May 10, 1913.—See also Chung, I. c.

SHANTUNG: Chinan fu, *F. N. Meyer*, nos. 250, 259, September 22, 1907 (Gray Herb.).

HONAN: Kung hsien, alt. 300 m., *J. Hers*, no. 285, June 15, 1919; Hwei hsien, Shansi border, *J. Hers*, no. 714, June 19, 1919.—See also Hers, I. c., and Chung, I. c.

SHANSI: Chin yuan, alt. 1100 m., *K. Ling*, Herb. Univ. Nanking no. 9159, July 4, 1925; near Lui chen, *F. N. Meyer*, no. 1874, November 7, 1914. (Herb. U. S. Dept. Agric.).—See also Meyer, I. c.

SHENSI: Yen an fu, *W. Purdom*, no. 1125, in 1910; near Tchan lien li, *F. N. Meyer*, no. 1928, September 17, 1914 (Herb. U. S. Dept. Agric.).—See also Franchet, I. c., Bretschneider, I. c., Harms, I. c., and Chung I. c.

KANSU: Tsing chow, Cheng kia chuang, alt. 1600 m., *J. Hers*, no. 2433, October 6, 1922.—See also Farrer, I. c.

DISTRIBUTION: also Hupeh, Szechuan, Yunnan.

*Sophora flavescens* Aiton, Hort. Kew. II. 43 (1789).—Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 89 (Enum. Pl. Chin. Bor. 15) (1833).—Turczaninow in Bull. Soc. Nat. Moscou, x. no. VII. 150 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 470 (Ind. Fl. Pekin.) (1859).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 252 (Pl. David. I. 100) (1883); in Mém. Soc. Sci. Nat. Cherbourg, XXIV. (1884).—Kanitz in Math.-Naturwiss. Ber. Ungarn. III. 8 (1886); in Szechenyi, Kelatazs. Utján. Tudom. Ered. II. 806 (Pl. Enum. 19) (1891); in Szechenyi, Wiss. Ergeb. Reise Ostas. II. 695 (1898).—Hemsley in

Jour. Linn. Soc. xxiii. 202 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 53 (1898).—Faber in Denkschr. Entwickl. Kiautschou, 33 (1898).—Harms in Bot. Jahrb. xxix. 410 (1900).—Harms & Loesener in Bot. Centralbl. Beih. xxxvii. pt. ii. 138 (1919).—Limpricht in Bot. Reis. Hochgeb. Chin. Ost.-Tib. 415 (1922).—Chung in Mem. Sci. Soc. China, i. 109 (Cat. Trees Shrubs China) (1924).

*Sophora galeoides* Pallas, Spec. Astragal. 118, t. 88 (1800).—Debeaux in Act. Soc. Linn. Bordeaux, xxxi. 136 (Fl. Tché-fou, 41) (1876).

CHILI: Hsiao Wu tai shan, *F. N. Meyer*, no. 1329, August 23, 1913; Po hua shan, *J. Hers*, no. 1440, July 1, 1921.—See also Bunge, l. c., Turczaninow, l. c., Maximowicz, l. c., Hemsley, l. c., Bretschneider, l. c., Limpricht, l. c., and Chung, l. c.

SHANGTUNG: Tsingtau, *R. Zimmermann*, no. 201, in 1901 (Gray Herb.).—See also Debeaux, l. c., Hemsley, l. c., Faber, l. c., Harms & Loesener, l. c., and Chung, l. c.

SHENSI: See Harms, l. c., and Chung, l. c.

KANSU: See Hemsley, l. c., and Kanitz, l. c.

DISTRIBUTION: also Kiangsi, Fukien, Kwangtung, Hupeh, Szechuan, Yunnan.

This species though not truly ligneous, is more or less suffruticose and therefore has been included in this enumeration, but *S. alopecuroides* L. and *S. pachycarpa* C. A. Mey. both occurring in northern China are herbaceous.

*Maackia amurensis* Ruprecht & Maximowicz in Bull. Phys.-Math. Acad. Sci. St. Pétersb. xv. 128, 143, t. (1856).—Harms in Bot. Jahrb. xxxvi. beibl. lxxxvii. 58 (1905).

*Cladrastis amurensis* K. Koch, Dendr. i. 7 (1869).—Harms & Loesener in Bot. Centralbl. Beih. xxxvii. pt. ii. 138 (1919).

SHANTUNG: (ex Harms & Loesener, l. c.).

SHENSI: *G. Giraldu*, nos. 635, 4032 (ex Harms, l. c.).

DISTRIBUTION: Manchuria.

I have seen no specimen from Shantung and Shensi and I suspect that these plants may prove to be identical with one of the two following species.

*Maackia chinensis* Takeda in Not. Bot. Gard. Edinb. viii. 103 (1913).

*Maackia hupehensis* Takeda in Sargent, Pl. Wilson. ii. 98 (1914).

NORTHERN KIANGSU: Liu lin-shan, near Haichow, *J. Hers*, no 651, May 5. 1921.

DISTRIBUTION: also Kiangsi, Hupeh, Szechuan.

The specimen consists only of a branch with young shoots just unfolding, but it agrees in its pubescence exactly with the young growth of Wilson's no. 709, the type number of this species.

*Maackia honanensis* Bailey, Gent. Herb. i. 32, fig. 9. (1920).

HONAN: Chi kung shan (ex Bailey, l. c.).

DISTRIBUTION: also Kiangsu.



The species is represented in this herbarium only by a flowering specimen from Bau hwa shan, Kiangsu, collected by A. N. Steward (Univ. Nanking Herb. no. 5200).

*Cladrastis Wilsonii* Takeda in Not. Bot. Gard. Edinb. viii. 103 (1913); in Sargent, Pl. Wilson. ii. 97 (1916).—Hers in Jour. N. China Branch R. As. Soc. LIII. 108 (1922); Liste Ess. Lign. Honan Sept. 8 (1922).—Chung in Mem. Sci. Soc. China, i. 109 (Cat. Trees Shrubs China) (1924).

HONAN: Lushi, Hiung eul shan, alt. 1400 m., *J. Hers*, no. 877, October 10, 1919.—See also Hers, l. c.

SHENSI: Shan hsien li, alt. 1200 m., *F. N. Meyer*, no. 1930, September 17, 1914.—See also Chung, l. c.

DISTRIBUTION: also Kiangsi, Hupeh, Hunan, Szechuan.

Both specimens cited consist of sterile branches; the Honan specimen resembles in its narrower and more numerous (9–13) leaflets *C. sinensis* Hemsl., but the leaflets are quite glabrous beneath and distinctly acuminate.

*Indigofera Kirilowii* Maximowicz apud Palibin in Act. Hort. Petrop. xiv. 114 (1895), nom. nudum; xvii. 62, t. 4 (1899), pro parte.—Craib in Not. Bot. Gard. Edinb. viii. 66 (1913).—Hers in Jour. N. China Branch R. As. Soc. LIII. 111 (1922); Liste Ess. Lign. Honan Sept. 15 (1922).—Cowdry in Jour. N. China Branch R. As. Soc. LIII. 162 (1922).—Chung in Mem. Sci. Soc. China, i. 111 (Cat. Trees Shrub China) (1924).

*Indigofera macrostachya* Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. ii. 90 (Enum. Pl. Chin. Bor. 16) (1833).—Turczaninow in Bull. Soc. Nat. Moscou, x. no. vii. 151 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 470 (Ind. Fl. Pekin.) (1859); in Bull. Soc. Nat. Moscou, liv. 8 (1879).—Debeaux in Act. Soc. Linn. Bordeaux, xxxi. 139 (Fl. Tchétou, 44) (1877).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 234 (Pl. David. i. 83) (1883).—Hemsley in Jour. Linn. Soc. xxiii. 157 (1886).—Faber in Denkschr. Entwick. Kiautschou, 32 (1898).—Harms in Bot. Jahrb. xxix. 411 (1900); xxxiv. beibl. lxxv. 43 (1904).—Harms & Loesener in Bot. Centralbl. Beih. xxxvii. pt. ii. 140 (1919).—Limpricht, Bot. Reis. Hochgeb. Chin. Ost-Tib. 416 (1922).—Non Ventenat.

CHILI: near San tun ying, rocky places, *F. N. Meyer*, no. 968, May 30, 1913; Pei tai ho, rocky hills, *N. H. Cowdry*, no. 170, July 27, 1919; Peking, western Hills, *J. Hers*, no. 2519, June 10, 1923.—See also Bunge, l. c., Turczaninow, l. c., Maximowicz, l. c. (1859), Franchet, l. c., Hemsley, l. c., Palibin, l. c., Craib, l. c., Cowdry, l. c., and Limpricht, l. c.

SHANTUNG: Tsingtau, *R. Zimmermann*, nos. 182, 381, in 1901; Chifu, open places, *N. H. Cowdry*, no. 629, August 9, 1920; Tai shan, *J. Hers*, no. 1926, June 18, 1922.—See also Debeaux, l. c., Maximowicz, l. c. (1879), Faber, l. c., Harms, l. c. (1904), Craib, l. c., Harms & Loesener, l. c.

HONAN: Yung ning, Tsi li ping, *J. Hers*, no. 446, May 22, 1919; Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1228, Sept. 22, 1919; Sung hsien, San kuan miao, alt. 1000 m., *J. Hers*, no. 1313, September 27, 1919.—See also Hers, l. c.

SHENSI: Tai pei shan, *W. Purdom*, no. 951, in 1910.—See also Harms, l. c. (1900).

DISTRIBUTION: also Manchuria, Korea.

This species is rather variable in the size of the leaves and of the racemes; the leaflets vary from 1.5 cm. in Hers' no. 2519 from Peking to 7 cm. in his no. 1313 from Honan and the racemes may be shorter than the leaves as in Hers 2519 or about twice as long and attaining up to 20 cm. in length as in Zimmermann's no. 182 which probably represents *f. coreana* Craib.

*Indigofera Carlesii* Craib in Not. Bot. Gard. Edinb. VIII. 48 (1913).—Bailey, Gent. Herb. I. 31 (1920).

HONAN: Kioshan (ex Bailey, l. c.)

DISTRIBUTION: also Kiangsu.

*Indigofera pseudotinctoria* Matsumura in Tokyo Bot. Mag. XVI. 62 (1902).—Craib in Not. Bot. Gard. Edinb. VIII. 69 (1913).

SHENSI: Mte. Kin tan san, *G. Giraldis*, July 14, 1897.

DISTRIBUTION: also Kiangsu, Kiangsi, Kwantung, Hupeh, Szechuan and Yunnan.

*Indigofera Bungeana* Walpers in Linnaea, XIII. 525 (1839).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 470 (Ind. Fl. Pekin.) (1859).—Hance in Jour. Bot. XIII. 131 (1875).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 234 (Pl. David. I. 82) (1883).—Hemsley in Jour. Linn. Soc. XXIII. 156 (1886).—Bretschneider, Hist. Eur. Bot. Discov. China, 53, 331 (1898).—Harms in Bot. Jahrb. XXXVI. beibl. LXXXII. 58 (1905).—Craib in Not. Bot. Gard. Edinb. VIII. 69 (1913).—Chung in Mem. Sci. Soc. China, I. 110 (Cat. Trees Shrubs China) (1924).

*Indigofera micrantha* Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 90 (Enum. Pl. Chin. Bor. 16) (1833).—Turczaninow in Bull. Soc. Nat. Moscou, X. no. VII. 151 (1837).—Non Desvaux, nec E. Meyer.

*Indigofera pseudotinctoria* Chung in Mem. Sci. Soc. China, I. 111 (Cat. Trees Shrubs China) (1924), quoad plantam e Chili.—Non Matsumura.

CHILI: Weichang, *W. Purdom*, no. 953, in 1909; Siao Wutai shan, Shui shih tao, alt. 1500 m., *J. Hers*, no. 2182, October 8, 1922; mountains near Y. Chow, *N. H. Cowdry*, no. 1771, July 20, 1921; without precise locality, *Père Chagnet*, no. 92, in 1919.—See also Bunge, l. c., Turczaninow, l. c., Maximowicz, l. c., Hance, l. c., Franchet, l. c., Hemsley, l. c., Bretschneider, l. c., Craib, l. c., and Chung, l. c.

HONAN: Chang mao, Shan chow, alt. 700 m., *J. Hers*, no. 814, October 2, 1919.

SHENSI: Tai pei shan, *W. Purdom*, no. 1113, in 1910; Lung chow, Li kia po, alt. 1800 m., *J. Hers*, no. 2369, July 4, 1922.—See also Harms, l. c.

KANSU: Tsing chow, Wu shih li pu, alt. 1500 m., *J. Hers*, no. 2412, July 21, 1922.

DISTRIBUTION: endemic.



*Indigofera Hosiei* Craib in Not. Bot. Gard. Edinb. VIII. 55 (1913). SHENSI or KANSU: without precise locality, *A. Hosie*, no. 1 (ex Craib, l. c.).

DISTRIBUTION: endemic.

*Indigofera Potaninii* Craib in Not. Bot. Gard. Edinb. VIII. 60 (1913).—Chung in Mem. Sci. Soc. China, I. 111 (Cat. Trees Shrubs China) (1924), excl. Honan et Shensi.

KANSU: west Kansu, *G. N. Potanin*, in 1885 (ex Craib, l. c.).—See also Chung, l. c.

DISTRIBUTION: endemic.

*Indigofera amblyantha* Craib in Not. Bot. Gard. Edinb. VIII. 47 (1913).

*Indigofera ichangensis* Hers in Jour. N. China Branch R. As. Soc. LIII. 111 (1922); Liste Ess. Lign. Honan Sept. 15 (1922).—Non Craib.

*Indigofera Potaninii* Hers, l. c.—Chung, in Mem. Sci. Soc. China, I. 111 (Cat. Trees Shrubs China) (1924), quoad Honan et Shensi.—Non Craib.

HONAN: Chi kung shan, *L. H. Bailey*, June 12, 1917: *Sia shih*, *J. Hers*, no. 350, May 25, 1921; Yung ning, *Tsi li ping*, *J. Hers*, no. 427, May 22, 1919 and no. 1341, September 30, 1919; Yung ning, *Yo tze ping*, alt. 1000 m., *J. Hers*, no. 826, October 4, 1919; *Lu shi*, *Kiao ho*, alt. 1000 m., *J. Hers*, no. 970, October 13, 1919; *Lu shi*, *Lao kiun shan*, *J. Hers*, no. 1144, September 21, 1919; *Tsi yuan hsien*, *Tien tan shan*, *J. Hers*, nos. 1741 and 1899, September 21, 1919; without locality, *J. Hers*, no. 1994; Cheng chow nursery, introduced from Sung shan, *J. Hers*, nos. 334 and 2585, May 1, 1921 and August 2, 1924.—See also *Bailey*, l. c., *Hers*, l. c., and *Chung*, l. c.

SHENSI: northwest of Han cheng hsien, *W. Purdom*, no. 952, in 1910; Tsing ling, 60 km. south of Sian fu, *J. Hers*, no. 2960, October 20, 1924.—See also *Chung*, l. c.

KANSU: near Hui hsien, *F. N. Meyer*, no. 1956, September 26, 1914.

DISTRIBUTION: also Hupeh.

*Purdom*'s no. 952 from Shensi has somewhat larger flowers than typical *I. amblyantha*, but I can see no other difference and consider it only a variation of this species.

*Wistaria sinensis* Sweet, Hort. Brit. 121 (1827).—*Rehder* & *Wilson* in Pl. Wilson. II. 509 (1916).—*Chung* in Mem. Sci. Soc. China. I. 112 (Cat. Trees Shrubs China) (1924).

*Wistaria chinensis* De Candolle, Prodr. II. 390 (1825).—*Harms* in Bot. Jahrb. XXXIV. beibl. LXXV. 43; XXXVI. beibl. LXXXII. 58 (1905).—*Harms* & *Loesener* in Bot. Centralbl. Beih. XXXVII. pt. II. 140 (1919).—*Hers* in Jour. N. China Branch R. As. Soc. LIII. 117 (1922); Liste Ess. Lign. Honan Sept. 34 (1922).

SHANTUNG: villages in the vicinity of Tsing tau, *O. Nebel* (ex *Harms*, l. c. (1904) and *Harms* & *Loesener*, l. c.).—See also *Chung*, l. c.

HONAN: without locality, cultivated (ex *Hers*, l. c.).

SHENSI: Lu tun and Kolupa, *G. Giraldi* (ex *Harms*, l. c. [1905]).

DISTRIBUTION: also Hupeh, Kiangsu, Chekiang, Kwang-tung, Szechuan.

There are no specimens of *W. sinensis* from northern China in this herbarium. The Shantung plant is probably cultivated, as it is said to occur "in den Dörfern."

***Wistaria villosa* sp. nov.**

*Wistaria chinensis* Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 94 94 (Enum. Pl. Chin. Bor. 20) (1833).—Turczaninow in Bull. Soc. Nat. Moscou, x. no. VII. 151 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 471 (Ind. Fl. Pekin.) (1859).—Non De Candolle.

*Wistaria brachybotrys* Hemsley in Jour. Linn. Soc. XXIII. 161 (1887), pro parte, quoad plantam e Peking.—Non Siebold & Zuccarini.

*Wistaria venusta* Rehder & Wilson in Sargent, Pl. Wilson. II. 514 (1916), quoad plantam chinensem.—Hers, Liste Ess. Lign. Honan Sept. 34 (1922).—Chung in Mem. Sci. Soc. China, I. 112 (Cat. Trees Shrubs China) (1924).

Frutex volubilis ramulis hornotinis dense subadpresse cinereo-villosis, annotinis glabrescentibus fusco-cinereis; gemmae floriferae 4–7 mm. longae, pubescentes. Folia sub anthesi plane expansa, indumento cinerascens non micante vestita, 4–5-, rarius 6-juga; petiolo 2–5 cm. longo incluso 15–32 cm. longa; foliola ovato-oblonga vel elliptico-oblonga vel oblongo-lanceolata, terminale saepe obovato-oblonga, 5–10 cm. longa et 2.3–3.5 cm. vel interdum ad 4 cm. lata, manifeste et saepe satis abrupte acuminata, basi late cuneata vel rotundata, supra laxe pilis albidis ad 1 mm. longis vel interdum ad 1.5 mm. longis conspersa, demum glabra, subtus densius pilis albidis longiusculis partim plus minusve curvatis persistentibus vestita, nervis utrinsecus 5–7 instructa; petioli 3–4 mm. longi, ut rhachis sed densius patenti-villosi. Racemi sessiles, penduli, multiflori, circiter 30 cm. longi, rhachi breviter denseque apicem versus laxius villosa; pedicelli fere sub angulo recto patentes, 1.5–3 cm. longi, villosi; calyx dense adpresse villosulus, violascens, cupularis, leviter bilabiatus vel fere truncatus dente antico lanceolato-subulato circiter 3–5 mm. longo excluso circiter 5 mm. altus, dentibus lateralibus quam medius dimidio brevioribus vel fere obsoletis, labio postico brevissimo subtruncato et plerumque brevissime bidentato; corolla ut videtur violacea, vexillo orbiculari, circiter 2 cm. diam. apice truncato et mucronulato basi profunde cordato extus glabro unguiculo 3 mm. longo, alis late oblongis 16 mm. longis et 8 mm. latis unguiculo 5 mm. longo, carina alis paullo brevior 9 mm. lata, apice emarginata; ovarium dense velutinum, stylus glaber. Legumen 18–24 cm. longum, circiter 2.5 cm. latum, 3–6-spermum.

CHILI: Temple of Sleeping Buddha, Wo-fu-ssu, western hills near Peking, *Ralph G. Mills*, July 25, 1923 (type), October 3, 1923; Ying tau ko, among high scrub, apparently genuinely wild, *F. N. Meyer*, no. 1299, September 12, 1913 (fruiting); Tientsin, Chinese Public Garden, *H. H. Chung*, no. 45, October 3, 1920 (fruiting).

? HONAN: without locality (ex *Hers*, l. c.).

SHANSI: Hia Hsien, Huang lai kow, *J. Hers*, no. 1872, October 2, 1921.

KIANGSU: wooded slope, Baillie's Farm, *A. N. Steward*, September 7, 1922 (Herb. Univ. Nanking, no. 2752).



This new species differs from all Asiatic *Wistarias* in its villose grayish white, not lustrous and silky pubescence persisting on the under side of the leaves. It seems nearest to *W. venusta* Rehd. & Wils. which differs chiefly in its appressed pubescence of short silky hairs yellowish and lustrous on the young leaves, those on the upper surface very short, closer and persistent until autumn, in its keel being truncate at the apex and in its flower-bearing winter-buds being about 1 cm. long with the inner scales very densely yellowish pubescent. It is also closely related to *W. sinensis* Sweet which differs chiefly in its silky straight less dense pubescence more or less yellowish and lustrous on young leaves and disappearing almost entirely at maturity; the leaves are usually only half grown at flowering time and the leaflets cuneate or broad-cuneate at the base; the tomentum of the fruit which is usually shorter and has fewer seeds is fulvous.

This is probably the plant mentioned by Dominicus Parennin, a Frenchman, who went to China in 1698 and died in Peking in 1741; he describes a climbing plant called teng lo with beautiful violet flowers hanging down in large bunches (see Bretschneider, *Hist. Eur. Bot. Discov. China*, 20).

There are no specimens from Honan in this herbarium and the reference cited above is probably a mistake and refers to the plant collected in Shansi.

The revision of the *Wistarias* from Eastern Asia in our herbarium brought to light another new species from China and a new variety from Japan which are described below.<sup>1</sup>

<sup>1</sup> *Wistaria brevidentata*, sp. nov.

Frutex volubilis, ramulis hornotinis accumbenti-villosis, annotinis glabrescentibus flavido-cinereis, vetustioribus cinereis; genmae floriferae circiter 6 mm. altae, perulis exterioribus striatis sericeis. Folia sub anthesi fere plane evoluta, petiolo 3-4 cm. longo incluso 13-17 cm. longa, 4-5-, rarius 6-juga; foliola elliptico- vel ovato-oblonga, 2.5-5 cm. longa et 1-1.8 cm. lata, acuminata, basi late cuneata vel rotundata, supra sparse strigoso-pilosa, subtus ad venas et densius ad costam, in facie sparse strigoso-pilosa; petioluli dense strigoso-villosi, 2-3 mm. longi; rhachis et petiolus sparse accumbenti-pilosus. Racemi 10-18 cm. longi, multiflori, floribus gradatim e basi ad apicem aperientibus; pedicelli 6-12 mm. longi ut rhachis dense breviter villosi; calyx cupularis, 3-4 mm. altus, velutinus, vix bilabiatus, dentibus 3 anticis triangularibus subaequilongis vel medio paulo longiore 1.5-2 mm. longo et quam tubus circiter 3-plo brevior; corolla violacea, vexillo suborbiculari 1.5 cm. diam. apice profunde emarginato, basi leviter cordato, extus ad basin villosulo, unguiculo 3 mm. longo, alis oblongis unguiculo 4 mm. longo incluso 16 mm. longis et 7 mm. latis, carina unguiculo 4 mm. longo incluso 16 mm. longa et 7 mm. lata apice profunde emarginata; stylus pilis paucis longis instructus. Legumen non vidi.

YUNNAN: "jardins de Tong tchouan, cultivé et subspontané," alt. 2500 m., *E. E. Maire*, April (Arnold Arb. Distrib. no. 458, type).

FUKIEN: Fuchow, April 8 and 9, 1923 (Herb. Univ. Amoy, nos. 1265 and 1291).

This new species is characterized by its rather small flowers, short pedicels, the very short calyx-teeth, the emarginate standard pubescent outside at base. It seems nearest to *W. sinensis* Sweet which differs in its larger flowers more than 2 cm. long and its truncate standard not or scarcely hairy outside, in the elongated anterior calyx-tooth, in the 2-3 cm. long pedicels and in the flowers of each raceme opening nearly simultaneously. In its smaller flowers opening gradually from base to apex it resembles *W. floribunda* DC., but that species has more numerous leaflets, a longer raceme, longer pedicels, longer calyx-teeth, and a truncate standard glabrous on the back.

*Wistaria venusta* Rehder & Wilson f. *violacea*, f. nov.

Flores violaceae, ceterum ut in typo.

*Caragana chamlagu* Lamarck, Encycl. Méth. i. 616 (1783).—Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. ii. 90 (Enum. Pl. Chin. Bor. 16) (1833).—Maximowicz in Bull. Soc. Nat. Moscou, LIV. 8 (1879).—Hemsley in Jour. Linn. Soc. xxiii. 163 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 49, 174, 331 (1898).—Harms in Bot. Jahrb. xxix. 412 (1900); xxxvi. beibl. LXXXII. 58 (1905).—Komarov in Act. Hort. Petrop. xxix. 200, t. 5, fig. B (Carag. Monog.) (1909).—Chung in Mem. Sci. Soc. China, i. 113 (Cat. Trees Shrubs China) (1924).

*Caragana chinensis* Turczaninov apud Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 471 (Ind. Fl. Pekin.) (1859).

CHILI: "China bor.," *A. Bunge* (Gray Herb.).—See also Bunge l. c., Maximowicz, l. c., Hemsley, l. c., Bretschneider, l. c. (p. 49), Komarov, l. c., and Chung, l. c.

SHANTUNG: *G. Staunton* (ex Hemsley, l. c., and Bretschneider, l. c. [p. 174]).—See also Chung, l. c.

SHENSI: Lean san and Tai pei shan, *G. Giraldis* (ex Harms, l. c., and Komarov, l. c.).—See also Chung, l. c.

DISTRIBUTION: also Manchuria, Kiangsu, Kiangsi, Hupeh, Hunan, Kweichow and Yunnan.

*Caragana rosea* Turczaninov apud Bretschneider, Hist. Eur. Bot. Discov. China, 348 (1898).—Komarov in Act. Hort. Petrop. xxix. 205, t. 5, fig. C (1909).—Chung in Mem. Sci. Soc. China, i. 114 (Cat. Trees Shrubs China) (1924).

*Caragana frutescens* var. *floribus roseis* Turczaninov in Bull. Soc. Nat. Moscou, x. no. VII. 151 (1837).

*Caragana frutescens* DC. *rosea* Turczaninov apud Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 470 (Ind. Fl. Pekin.) (1859).

*Caragana frutescens* Hance in Jour. Bot. xiii. 131 (1875).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 235 (Pl. David. i. 83) (1883).—Palibin in Act. Hort. Petrop. xiv. 114 (1895).—Bretschneider, Hist. Eur. Bot. Discov. China, 53 (1898).—? Harms & Loesener in Bot. Centralbl. Beih. xxxvii. pt. II. 140 (1919).—Non De Candolle.

*Caragana digitata* Harms in Bot. Jahrb. xxix. 412 (1900).—Non Lamarck.

*Caragana frutex* Chung in Mem. Sci. Soc. China, i. 113 (Cat. Trees Shrubs China) (1924).—Non K. Koch.

*Caragana chamlagu* Hers in Jour. N. China Branch R. As. Soc. LIII. 107 (1922); Liste Ess. Lign. Honan Sept. 5 (1922).—Non Lamarck.

CHILI: Pagoda Hill, New Summer Palace, Peking, *C. S. Sargent*, September 17, 1903; hills near Great Wall, Kalgan road, *J. G. Jack*, October 5, 1905; Nankow Pass, *J. Hers*, no. 1599, August 15, 1921; Po hua shan, *J. Hers*, nos. 1386 and 1425, May 1, 1921; western hills near Peking, *J. Hers*, no. 1577, August 7, 1921; Miao feng shan, alt. 1000 m., *J. Hers*, no. 2532, June 17, 1923; Siao Wu tai shan, alt. 900—

JAPAN. Kyushu: Nishi Kirishima, alt. 0-500 m., *E. H. Wilson*, no. 10335, May 4, 1918 (type); cultivated round Mt. Kirishima, alt. 100-1000 m., *Z. Tashiro*, April 18 and 29, 1917.

This is apparently the wild form of the white-flowered *W. venusta* which is known only as a cultivated plant; it agrees with *W. venusta* in every character except the color of the flowers, as in its characteristic dense and persistent pubescence, in the large winter-buds, in the rather short sub-erect racemes and in the large flowers. This form therefore represents the phylogenetic type while the white-flowered form remains the nomenclatorial type.



1500 m., *J. Hers*, nos. 1469 and 2195, July 14, 1921 and October 9, 1922; near Kontze, in loess cliffs, *F. N. Meyer*, no. 1067, August 1, 1913; Weichang, *W. Purdom*, nos. 9 and 1136, in 1909; Wun po chun, *P. H. Dorsett*, no. 913, October 10, 1924.—See also Bretschneider, l. c., Komarov, l. c., Chung, l. c., Turczaninov, l. c., Maximowicz, l. c., Franchet, l. c., and Palibin, l. c.

HONAN: Hodien, *F. N. Meyer*, no. 1866, July 7, 1914; Sung hsien, Shih tze miao, alt. 1200 m., *J. Hers*, no. 589, May 26, 1919; cultivated at Cheng chow, introduced from the hills, *J. Hers*, nos. 2586, 2856, August 2, 1923, and April, 1924.—See also *Hers*, l. c.

KANSU: near Lan chow fu, *P. J. Piasezki* (ex Komarov, l. c.).—See also Chung, l. c.

DISTRIBUTION: also Chekiang and Manchuria.

*Caragana Leveillei* Komarov in *Act. Hort. Petrop.* xxix. 207, t. 5, fig. A (1909).—Chung in *Mem. Sci. Soc. China*, i. 113 (*Cat. Trees Shrubs China*) (1924).

CHILI: Peking, "bought from a flower vender," *F. N. Meyer*, no. 926, May 12, 1913 (*Herb. U. S. Dept. Agric.*); Chao chow, *L. Chanel* (ex Komarov, l. c.).—See also Chung, l. c.

HONAN: Teng feng hsien, Yu tai shan, alt. 800 m., *J. Hers*, no. 253, April 23, 1919.

SHENSI: Fukio, *G. Giraldi* (ex Komarov, l. c.).—See also Chung, l. c.

The type locality of this species cited by Komarov as Tchao-Tchao without mention of the province is apparently the French spelling for Chao chow, a place in southern Chili: the name of the collector given as *L. Chanel* should probably be *Chanet*, a French missionary who collected in Chili.

*Caragana opulens* Komarov in *Act. Hort. Petrop.* xxix. 208 (1909).—Chung in *Mem. Sci. Soc. China*, i. 114 (*Cat. Trees Shrubs China*) (1924).

SHANSI: Tsin-tse, *F. N. Meyer*, no. 409, May 5, 1907, Wu dai hsien, Ta nan Kow, *Tchuang Kich*, *Hers* no. 2052, September 7, 1922 (sterile, doubtful).

KANSU: Ma dja key, *F. N. Meyer*, no. 1795, October 10, 1914 (*Herb. U. S. Dept. Agric.* sterile, doubtful); several localities, *P. J. Piasezki* and *G. N. Potanin* (ex Komarov, l. c.).—See also Chung, l. c.

DISTRIBUTION: also southeastern Mongolia, eastern Tibet.

*Caragana brevifolia* Komarov in *Act. Hort. Petrop.* xxix. 211, t. 17 (1909).—Chung in *Mem. Sci. Soc. China*, i. 113 (*Cat. Trees Shrubs China*) (1924).

KANSU: near Labrang, alt. 3000–4000 m. *R. C. Ching*, no. 774, August 17–20, 1923.—See also Komarov, l. c., and Chung, l. c.

DISTRIBUTION: also Kashmir.

Ching's no. 774 differs from the original description in the slightly pubescent leaves and peduncles; the leaflets do not exceed 5 mm. in length.

*Caragana pygmaea* De Candolle, Prodr. II. 268 (1825).—Komarov in Act. Hort. Petrop. XXIX. 240 (1909).—Chung in Mem. Sci. Soc. China, I. 114 (Cat. Trees Shrubs China) (1924).

SHANSI: *G. N. Potanin* (ex Komarov, l. c.).—See also Chung, l. c.

KANSU: Minchow, alt. 2400 m., *W. Purdom*, no. 1052, in 1910.—See also Komarov, l. c., and Chung, l. c.

DISTRIBUTION: also Siberia, Mongolia.

Purdom's no. 1052 represents var. *acicularis* Komar.

*Caragana densa* Komarov in Act. Hort. Petrop. XXIX. 258, t. 7 (1909).—Chung in Mem. Sci. Soc. China, I. 13 (Cat. Trees Shrubs China) (1924).

KANSU: on the Tao ho, *G. N. Potanin* (ex Komarov, l. c.).—See also Chung, l. c.

DISTRIBUTION: also Szechuan.

*Caragana erinacea* Komarov in Act. Hort. Petrop. XXIX. 268, t. 9, fig. B (1909).—Chung in Mem. Sci. Soc. China, I. 113 (Cat. Trees Shrubs China) (1924).

KANSU: Hoang ho valley near mouth of river Tschur myn, *N. Przewalski* (ex Komarov, l. c.).—See also Chung, l. c.

DISTRIBUTION: also Szechuan.

*Caragana Maximowicziana* Komarov in Act. Hort. Petrop. XXIX. 269, t. 11, fig. B (1909).—Chung in Mem. Sci. Soc. China, I. 113 (Cat. Trees Shrubs China) (1924).

KANSU: near Minchow, alt. 2400–2700 m. *W. Purdom*, no. 681, in 1910.—See also Komarov, l. c. and Chung l. c.

DISTRIBUTION: also eastern Tibet.

*Caragana tragacanthoides* Poiret, Encycl. Méth. Suppl. II. 90 (1811).—Komarov in Act. Hort. Petrop. XXIX. 270 (1909).—Chung in Mem. Sci. Soc. China, I. 114 (Cat. Trees Shrubs China) (1924).

DISTRIBUTION: Turkestan and Songaria to Mongolia, Kansu, and northwest Himalaya.

In China occurs only the following variety:

*Caragana tragacanthoides* var. *villosa* Regel in Fedtschenko, Putetchest. Turkest. III. 19 (1882).—Komarov in Act. Hort. Petrop. XXIX. 272 (1909).

KANSU: *G. N. Potanin* and *P. J. Piasezki* (ex Komarov, l. c.).—See also Chung, l. c.

DISTRIBUTION of the variety: also Russian Turkestan and Karakorum.

*Caragana tibetica* Komarov in Act. Hort. Petrop. XXIX. 282, t. 10 (1909).—Chung in Mem. Sci. Soc. China, I. 114 (Cat. Trees Shrubs China) (1924).



KANSU: "Kansu occidentalis" *G. N. Potanin*, May 11, 1885 (Gray Herb.); "Regio Tangut," *N. M. Przewalski*, in 1880 (Gray Herb.).—See also Komarov, l. c., and Chung, l. c.

DISTRIBUTION: also Szechuan.

*Caragana tangutica* Maximowicz apud Komarov in Act. Hort. Petrop. xxix. 286, t. 12 (1909).—Chung in Mem. Sci. Soc. China, i. 114 (Cat. Trees Shrubs China) (1924).

KANSU: Tetung valley, *N. Przewalski* (ex Komarov, l. c.).—See also Chung, l. c.

*Caragana jubata* Poiret, Encycl. Méth. Suppl. ii. 89 (1911).—Regel in Gartenfl. x. 231, t. 331 (1861).—Komarov in Act. Hort. Petrop. xxix. 287 (1909).—Limpricht, Bot. Reis. Hochgeb. Chin. Ost.-Tib. 416 (1922).—Chung in Mem. Sci. Soc. China, i. 113 (Cat. Trees Shrubs China) (1924).

CHILI: Hsiao Wu tai shan, alt. 3000 m., *F. N. Meyer*, no. 1222, August 13, 1913.—See also Komarov, l. c., Limpricht, l. c., and Chung, l. c.

SHANSI: Nan fang shan, alt. 800–900 m., very common on top of the range on the south in sunny places, *J. Hers*, no. 2735, September 22–30, 1923.—See also Komarov, l. c.

SHENSI: (ex Chung, l. c.).

KANSU: near Minchow, alt. 2700–3000 m., *W. Purdom*, no. 1053, in 1910.—See also Komarov, l. c., and Chung, l. c.

DISTRIBUTION: also eastern Siberia, Mongolia, Tibet, Turkestan and central Himalayas.

In Purdom's specimen from Kansu the flowers are decidedly pink.

*Caragana arborescens* Lamarck, Encycl. Méth. i. 615 (1783).—Komarov in Act. Hort. Petrop. xxix. 321 (1909).—Chung in Mem. Sci. Soc. China, i. 113 (Cat. Trees Shrubs China) (1924), pro parte.

CHILI: Hsiao Wu tai shan, *J. Hers*, nos. 1500 and 1569, July 14, and 16, 1921.

DISTRIBUTION: also Siberia to the Altai Mountains, Transbaicalia and Mongolia.

Komarov does not enumerate specimens from northern China, but I have no doubt that Hers' specimens from Chili belong here. The Shantung reference by Chung (l. c.) is probably based on the enumeration by Harms & Loesener (in Bot. Jahrb. xxxvi. beibl. lxxxii. 58 [1905]) of *C. arborescens* as a shrub cultivated at Tsingtau.

*Caragana Zahlbruckneri* Schneider, Ill. Hand. Laubholz. ii. 96, fig. 59 g–h<sup>3</sup>, 60 m. (1907).—Komarov in Act. Hort. Petrop. xxix. 338 (1909).—Chung in Mem. Sci. Soc. China, i. 114 (Cat. Trees Shrubs China) (1924).

*Caragana microphylla* Hemsley in Jour. Linn. Soc. xxiii. 163 (1887), pro parte, quoad plantam Hancockiie Shantung.—Non Lamarck.

CHILI: Nan kow Pass and Ku pei ku, *Wawra*, nos. 900 and 985, and

Lung tsyan sze, *Tatarinov* (ex Schneider, l. c., and Komarov, l. c.).—See also Chung, l. c.

SHANTUNG: Chi fu, *W. Hancock*, no. 26 (ex Komarov, l. c.).—See also Chung, l. c., and Hemsley, l. c.

DISTRIBUTION: endemic.

*Caragana pekinensis* Komarov in Act. Hort. Petrop. xxix. 339, t. 15, fig. c (1909).—Limpricht, Reise Hochgeb. Chin. Ost.-Tib. 416 (1922).—Chung in Mem. Sci. Soc. China, i. 114 (Cat. Trees Shrubs China) (1924).

*Caragana microphylla* γ Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. ii. 90 (Enum. Pl. Chin. Bor. 16) (1833).—Turczaninov in Bull. Soc. Nat. Moscou, x. no. vii. 151 (1837).

*Caragana microphylla* Hemsley in Jour. Linn. Soc. xxiii. 163 (1887), pro parte, quoad exemplar *Bretschneideri* citatum.

CHILI: western hills, near Peking, *W. Purdom*, no. 1054, April 30, 1912; Tsing shui tsien, *J. Hers*, no. 1621, September 6, 1921; Hsiao Wu tai shan, southeastern valley, alt. 900–1500 m., *J. Hers*, no. 2191, October 9, 1922; Men tow kow, *J. Hers*, no. 2552, July 8, 1923.—See also Komarov, l. c., Limpricht, l. c., Chung, l. c., Bunge, l. c., Turczaninov, l. c., and Hemsley, l. c.

HONAN: Cheng chow, cultivated, introduced from the hills, *J. Hers*, no. 2855, April, 1924.

? SHENSI: "Sciu-ien-san prope Kan y huo," *G. Giralddi*, no. 4281 (ex Komarov, l. c.).

DISTRIBUTION: endemic.

Giralddi's specimen from Shensi quoted by Komarov is apparently the same plant as the type of *C. sericea*; both are cited as no. 4281, one from the herbarium at Berlin and the other from that of Florence and the variation in the citations is so slight that it is easily accounted for by omissions and mistakes in copying.

*Caragana sericea* Pampanini apud Komarov in Act. Hort. Petrop. xxix. 342, t. 15, fig. a (1909).—Chung in Mem. Sci. Soc. China, i. 114 (Cat. Trees Shrubs China) (1924).

SHENSI: "Sciu-ian san ad fl. Kayhuo," *G. Giralddi*, no. 4281 (ex Komarov, l. c.).—See also Chung, l. c.

DISTRIBUTION: endemic.

*Caragana Purdomii*, sp. nov.

Frutex 1.5–2 m. altus, ramis griseo-lutescentibus junioribus initio laxe adpresse villosis mox glabrescentibus; stipulae induratae, spinosae, breves et suberectae, vel in ramulis robustis circiter 1 vel interdum 1.5 cm. longae, patentes vel rarius leviter recurvae. Folia 5–8-juga, petiolo 1–25 cm. longo incluso 3–6 cm. longa; rhachis tenuis, decidua, leviter accumbenti-villosa vel basin versus glabrescens; foliola obovata vel elliptica vel anguste elliptica, 4–10 mm. longa, apice rotundata vel rarius acutiuscula, mucronata, basi cuneata, utrinque sparse sericeo-

villosa, pallide vel glaucescenti-viridia, nervis leviter elevatis. Pedunculi 1-3, 1.5-2.5 cm. longi, leviter villosuli vel glabrescentes, paulo infra apicem articulati, bractea subulata instructi; calyx campanulatus, 8-10 mm. longus et paulo angustior, puberulus vel fere glabrescens, dentibus late deltoideis dense villosulo-ciliolatis acuminulatis 2 mm. longis; corolla lutea, 2.5 cm. longa, vexillo orbiculato-obovato 17-20 mm. lato, alis lamina oblonga auricula calcariformi acutiuscula et unguiculo 1 cm. longo instructis, carina obtusa oblonga longe unguiculata basi abrupte fere rectangulariter contracta; ovarium stipitatum stipite 2.5-3 mm. longo, apice attenuatum, basi et apice tantum uno latere sparse pilosum vel omnino glabrum; legumen valde immaturum compressum, anguste oblongum, basi et apice sensim attenuatum, stipite calycem fere aequante.

SHENSI: south of Yen-an fu, *W. Purdom*, nos. 325, 326 (type) and 327, in 1910.

On account of its stipitate ovary this species seems to be closely related to *C. stipitata* Komar., but differs in its more numerous (10-16) obtuse leaflets, much larger flowers and glabrous or nearly glabrous ovary. Purdom's nos. 325 and 326 consist of rather slender branches with small subulate ascending spiny stipules, while no. 326 is represented by more vigorous branches with stout subulate spreading or occasionally somewhat reflexed and compressed spines up to 1.5 cm. long. The ovary in no. 325 is perfectly glabrous, in no. 326 sparingly pilose at base (above apex of stipe) and in no. 327 sparingly pilose at base and apex.

#### *Caragana reticulata*, sp. nov.

Frutex ramis robustis luteo-viridibus vel luteo-fuscis; stipulae spinosae, circiter 5 mm. longae. Folia 3-5 cm. longa petiolo 1-2 cm. longo incluso, 4-, vel rarius 3-juga; rhachis parce pubescens; foliola elliptica vel elliptico-oblonga, 1-2 cm. longa, acutiuscula vel obtusiuscula, minute mucronulata, basi late cuneata, supra obscura viridia, glabra, subtus pallidiora et sparsissime, ad costam et basin versus densius accumbenti-pilosa, firma, utrinque leviter reticulata, petiolulis villosis. Pedunculi 2-4, 1-15 cm. longi, villosuli, circa medium articulati; calyx late campanulatus, 5-6 mm. longus et paulo latior, adpresse villosus, margine fere truncato dense villosulo-ciliolato dentibus ad mucronem reductis; legumen immaturum oblongum, stylo persistente excluso circiter 2.5 cm. longum et 6-7 mm. latum, valde compressum, apice et basi satis sensim attenuatum, tenuiter sericeo-pilosum et distincte elevato-reticulatum.

HONAN: Yungning, Tsi li ping, alt. 1100 m., *J. Hers*, no. 410, May 22, 1919.

Though the specimen bears only immature fruit, it seems so different from all other species known to me, that I venture to propose it as a new species. Its chief distinctive character lies in the comparatively short and broad, much flattened reticulate fruit which is only about



4 times as long as broad. In its leaves it resembles *C. arborescens* Lam., but differs in its pubescence, in the short peduncles and in its fruit; it seems more closely related to *C. sericea* Pamp., and *C. pekinensis* Komar., but differs in its glabrescent leaves and in the fruit; the latter resembles in shape much that of *C. stipitata* Komar. according to Komarov's figure (Act. Hort. Petrop. xxix. t. 15, fig. d) but it is sessile and its calyx is broader and nearly truncate.

*Caragana stipitata* Komarov in Act. Hort. Petrop. xxix. 343, t. 15, fig. d (1909).—Chung in Mem. Sci. Soc. China, I. 114 (Cat. Trees Shrubs China) (1924).

*Caragana arborescens* Harms in Bot. Jahrb. xxxvi. beibl. lxxxii. 58 (1905).—Non Lamarck.

SHENSI: many localities, *G. Giraldi* (ex Komarov, l. c.).—See also Chung, l. c.

DISTRIBUTION: endemic.

*Caragana microphylla* Lamarck, Encycl. Méth. I. 615 (1783).—Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 90 (Enum. Pl. Chin. Bor. 16) (1833).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 470 (Ind. Fl. Pekin.) (1859), excl. syn. Turczaninov; in Bull. Soc. Nat. Moscou, LIV. 8 (1879).—Regel in Gartenfl. x. 269, t. 336 (1861).—Hance in Jour. Bot. XIII. 131 (1875).—Hemsley in Jour. Linn. Soc. XXIII. 163 (1887), pro parte.—Harms in Bot. Jahrb. xxxvi. beibl. lxxxii. 58 (1905).—Komarov in Act. Hort. Petrop. xxix. 344 (1909).—Harms & Loesener in Bot. Centralbl. Beih. xxxvii. pt. II. 140 (1919).—Cowdry in Jour. N. China Branch R. As. Soc. LIII. 162 (Pl. Peitaiho) (1922).—Chung in Mem. Sci. Soc. China, I. 114 (Cat. Trees Shrubs China) (1924).

*Caragana allagana* Poiret, Encycl. Méth. Suppl. II. 89 (1811).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 470 (Ind. Fl. Pekin.) (1859).

CHILI: Peitaiho, Lotus hills, *N. H. Cowdry*, no. 168, May 28, and June 28, 1919.—See also Bunge, l. c., Maximowicz, l. c. (1859), Hance, l. c., Hemsley, l. c., Komarov, l. c., Cowdry, l. c., and Chung, l. c.

SHANTUNG: Tsing tau (ex Harms & Loesener, l. c.).—See also Maximowicz, l. c. (1879), Hemsley, l. c., and Chung, l. c.

HONAN: Hwei hsien, Shansi border, *J. Hers*, nos. 762 and 804 June 19, 1919.

SHENSI: Fan ngan fu and other localities, *G. Giraldi* (ex Harms l. c.).—See also Komarov, l. c. and Chung, l. c.

DISTRIBUTION: also Siberia, Mongolia and Manchuria.

*Caragana Potanini* Komarov in Act. Hort. Petrop. xxix. 352, t. 16, fig. d (1909).—Chung in Mem. Sci. Soc. China, I. 114 (Cat. Trees Shrubs China) (1924).

CHILI: near Shih men on rocky places, *F. N. Meyer*, no. 1087, August 3, 1913.

SHANSI: Mao tou shan, near Yen men kuan and Utai shan, *G. N. Potanin* (ex Komarov, l. c.).—See also Chung, l. c.

DISTRIBUTION: endemic.

*Desmodium podocarpum* De Candolle in Ann. Sci. Nat. iv. 102 (1825); Prodr. II. 336 (1825).—Harms in Bot. Jahrb. xxxvi. beibl. lxxxii. 70 (1905).—Harms & Loesener in Bot. Centralbl. Beih. xxhvi. pt. II. 141 (1919).—Chung in Mem. Sci. Soc. China, I. 115 (Cat. Trees Shrubs China) (1924).

SHANTUNG: Cape Jaeschke, *R. Zimmermann*, no. 503 (ex Harms & Loesener l. c.).—See also Chung, l. c.

SHENSI: Ki fou shan and Lean shan, *G. Giraldis* (ex Harms, l. c.).

DISTRIBUTION: also central and eastern China, Manchuria, Korea Japan and northern India.

*Desmodium tiliifolium* Don var. *Potaninii* Schindler apud Limpricht Bot. Reis. Hochgeb. Chin. Ost.-Tib. 428 (1922); in Fedde, Rep. Spec. Nov. xxii. 266 (1926).

KANSU: Hei ho, *G. N. Potanin* (ex Schindler, l. c.).

DISTRIBUTION: of the variety: also East Tibet.

*Hedysarum multijugum* Maximowicz in Mém. Biol. xi. 212 (1881); in Bull. Acad. Sci. St. Pétersb. xxvii. 464 (1882).—Regel in Gartenfl. xxxii. 193, t. 1122 (1883).—Hemsley in Jour. Linn. Soc. xxiii. 169 (1887).—Kanitz in Szechenyi, Keletazs. Utján. Tudom. Ered. II. 805 (Pl. Enum. 17) (1891); in Szechenyi, Wissensch. Ergeb. Reise Ostas. II. 693 (1898).—Bretschneider, Hist. Eur. Bot. Discov. China, 975 (1898).—Harms in Bot. Jahrb. xxxvi. beibl. lxxxii. 71 (1905).—Farrer in Jour. Roy. Hort. Soc. xlii. 76 (1916).—Chung in Mem. Sci. Soc. China, I. 114 (Cat. Trees Shrubs China) (1924).

*Hedysarum* sp. F. N. Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Inv. Seeds Pl. Imp. xliii. 75, no. 40746 (1918).

SHENSI: Ki san and Lean shan, *G. Giraldis* (ex Harms, l. c.).

KANSU: near Liang sin, *F. N. Meyer*, no. 1799, October 18, 1914 (Herb. U. S. Dept. Agric.).—See also Maximowicz, l. c., Hemsley, l. c., Kanitz, l. c., Farrer, l. c., Chung, l. c., and Meyer, l. c.

DISTRIBUTION: also Mongolia.

*Astragalus chrysopterus* Bunge in Bull. Acad. Sci. St. Pétersb. xxiv. 32 (1878); in Mém. Biol. x. 51 (1878) enumerated by Chung is, according to Bunge's description, an herbaceous perennial.

*Lеспедеза Buergeri* Miquel in Ann. Mus. Bot. Lugd.-Bat. III. 47 (1967); Prol. Fl. Jap. 235 (1867).—Harms in Bot. Jahrb. xxxvi. beibl. lxxxii. 70 (1905).—Schindler in Bot. Jahrb. xlix. 580 (1913).—Bailey, Gent. Herb. I. 31 (1920).—Hers in Jour. N. China Branch R. As. Soc. lIII. 111 (1922); Liste Ess. Lign. Honan. Sept. 16 (1922).—Chung in Mém. Sci. Soc. China, I. 116 (Cat. Trees Shrubs China) (1924).

HONAN: Teng feng, Yu tai shan, *J. Hers*, no. 300, June 17, 1919; Lu shih, Hiung eul shan, alt. 1400 m., *J. Hers*, no. 881, October 10, 1919; Lung hsien, Shih tze miao, alt. 1200 m., *J. Hers*, no. 1278, September 25, 1919; Sung hsien, San hsien, San kuan miao, alt. 1000 m., *J. Hers*, no. 1310, Sept. 27, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, no. 1694, September 16, 1921; Tsi yuan hsien, alt. 500 m., *J. Hers*, no. 2664, August, 1923 (in bud; doubtful); Cheng chow, cultivated (introduced from the western hills), *J. Hers*, no. 2580, August 2, 1923.—See also Bailey, l. c., Hers, l. c., and Chung, l. c.

SHENSI: Tai pei shan, *W. Purdom*, nos. 955, 956, in 1910.—See also Harms, l. c., Schindler, l. c., and Chung, l. c.

DISTRIBUTION: also Hupeh, Szechuan, Kiangsi; Japan.

*Lespedeza formosa* Koehne, *Deutsch. Dendr.* 343 (1893).—Schindler in *Bot. Jahrb.* XLIX. 580 (1913); in Sargent, *Pl. Wilson.* II. 107 (1914).—Harms & Loesener in *Bot. Centralbl. Beih.* XXXVII. pt. II. 141 (1919).—Limpricht, *Bot. Reis. Hochgeb. Chin. Ost.-Tib.* 429 (1922).—Hers in *Jour. N. China Branch R. As. Soc.* LIII. 112 (1922); *Liste Ess. Lign. Honan* Sept. 17 (1922).—Chung in *Mem. Sci. Soc. China*, I. 116 (*Cat. Trees Shrubs China*) (1924).

*Lespedeza bicolor* Harms in *Bot. Jahrb.* XXIX. 415 (1900), pro parte, quoad Giralddii nos. 1562, 1564, 1565; XXXIV. beibl. LXXV. 43 (1904), pro parte, quoad Zimmermannii no. 243.—Non Turczaninov.

*Lespedeza bicolor* var. Harms. in *Bot. Jahrb.* XXXIV. beibl. LXXV. 44 (1904).

SHANTUNG: Tsing tau, *R. Zimmermann*, nos. 243 and 276, in 1901.—See also Harms & Loesener, l. c., Harms, l. c. (1904), Schindler, l. c. (1914), and Chung, l. c.

HONAN: Hwei hsien near Shansi border, *J. Hers*, no. 706, June 19, 1919; Teng Feng, Yu tai shan, alt. 800 m., *J. Hers*, no. 292, June 17, 1919 (sterile); Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1182, September 21, 1919; Yung ning, Tsi li ping, alt. 1000 m., *J. Hers*, no. 1354, September 30, 1919; Tsi yuan hsien, alt. 500 m., *J. Hers*, no. 2677, August 23, 1923.—See also Hers, l. c., and Chung, l. c.

SHENSI: several localities, *G. Giralddi*, nos. 1562, 1564, 1565 (ex Harms, l. c. [1900] and Schindler, l. c., [1913]).

DISTRIBUTION: also Kiangsu, Kiangsi, Fukien, Kwangtung, Hupeh, Szechuan; Japan, Korea, Assam.

*Lespedeza Stottssae* Bailey, *Gent. Herb.* I. 32 (1920).

HONAN: Chi kung shan (ex Bailey, l. c.).

DISTRIBUTION: endemic.

*Lespedeza cyrtobotrya* Miquel in *Ann. Mus. Bot. Lugd.-Bat.* III. 48 (1867).—Schindler in *Bot. Jahrb.* XLIX. 582 (1913).—Hers in *Jour. N. China Branch R. As. Soc.* LIII. 112 (1922); *Liste Ess. Lign. Honan* Sept. 17 (1922).

*Lespedeza bicolor* Harms in *Bot. Jahrb.* XXIX. 415 (1900), pro parte, quoad *Giralddii* specim. nos. 1557 et 1559.—Non Turczaninov.



HONAN: Sung hsien, Shih tze miao, alt. 1200 m., *J. Hers*, no. 1264, September 25, 1919.—See also *Hers*, l. c.

SHENSI: several localities, *G. Giraldi*, nos. 1557, 1559 (ex *Harms*, l. c., and *Schindler*, l. c.).

DISTRIBUTION: also Japan and Korea.

*Lespedeza bicolor* Turczaninov in Bull. Soc. Nat. Moscou, XIII. 69 (1840).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 470 (Ind. Fl. Pekin.) (1859).—Debeaux in Act. Soc. Linn. Bordeaux, xxxi. 140 (Fl. Tché-Foû, 45) (1876).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 247 (Pl. David. i. 95) (1883); in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 211 (Cat. Pl. Tché-fou) (1884).—Hemsley in Jour. Linn. Soc. xxiii. 179 (1887).—Faber in Denkschr. Entwick. Kiautschou, 32 (1898).—Harms in Bot. Jahrb. xxix. 415 (1900); xxxiv. beibl. LXXV. 43 (1904), pro parte.—Schindler in Bot. Jahrb. xlix. 583 (1913); in Bot. Centralbl. Beih. xxxvii. pt. II. 141 (1919).—Limpricht, Bot. Reid. Hochgeb. Chin. Ost.-Tib. 428 (1922).—*Hers* in Jour. N. China Branch R. As. Soc. LIII. 111 (1922); Liste Ess. Lign. Honan Sept. 116 (1922).—Cowdry in Jour. N. China Branch R. As. Soc. LIII. 162 (Pl. Peitaiho) (1922).—Chung in Mem. Sci. Soc. China, i. 116 (Cat. Trees Shrubs China (1924)).

*Lespedeza* sp. *L. bicolori* affinis Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 470 (Ind. Fl. Pekin.) (1859).

*Lespedeza bicolor*  $\beta$ . *intermedia* Maximowicz in Act. Hort. Petrop. II. 356 (1873).

CHILI: Weichang, *W. Purdom*, no. 123, in 1909; Men tow kow, *N. H. Cowdry*, no. 487, June 8, 1920.—See also Maximowicz, l. c., Franchet, l. c., Hemsley, l. c., Schindler, l. c. (1913), Cowdry, l. c., and Chung, l. c.

SHANTUNG: Chifu, *N. H. Cowdry*, no. 571, July 22, 1920.—See also Debeaux, l. c., Franchet, l. c., Harms, l. c. (1904), Schindler, l. c. and Chung, l. c.

HONAN: Hwei hsien, Ta fu sze, *J. Hers*, no. 770, June 16, 1919 (with young flower-buds; doubtful).—See also *Hers*, l. c., and Chiung, l. c.

SHANSI: Tung tsa, alt. 1500 m., *W. C. Lowderwielk*, Herb. Univ. Nanking, no. 5551.

SHENSI: Kin san, *G. Giraldi*, in 1897; Tai pei shan, *W. Purdom*, nos. 954 and 957, in 1910.—See also Harms, l. c., Schindler, l. c., (1913) and Chung, l. c.

DISTRIBUTION: also Mongolia, Manchuria, Korea and Japan.

*Lespedeza floribunda* Bunge in Mém. Kazan. Univ. IV. 164 ? (Pl. Mongh.-Chin. 13) (1835); Ann. Sci. Nat. Bot. sér. 2, VI. 59 (1836).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 470 (Ind. Fl. Pekin.) (1859); in Act. Hort. Petrop. II. 360 (1873).—Hance in Jour. Linn. Soc. XIII. 78 (1871).—Debeaux in Act. Soc. Linn. Bordeaux, xxxi. 143 (Fl. Tché-Foû, 48) (1876).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 248 (Pl. David. i. 96) (1883); in Mém. Soc. Nat. Sci.

Nat. Cherbourg, xxiv. 211 (Cat. Pl. Tché-fou (1884).—Hemsley in Jour. Linn. Soc. xxiii. 181 (1887).—Kanitz in Szechenyi, Keletasz. Utján. Tudom. Ered. II. 806 (Pl. Enum. 18) (1891); in Szechenyi, Wissensch. Ergeb. Reise Ostas. II. 693 (1898).—Bretschneider, Hist. Eur. Bot. Discov. China, 331 (1898).—Harms in Bot. Jahrb. xxix. 415 (1900), excl. specimine Giralddii no. 1593; xxxiv. beibl. Lxxv. 44 (1904).—Schindler in Bot. Jahrb. xlix. 597 (1919); in Sargent, Pl. Wilson. II. 105 (1914); in Bot. Centralbl. Beih. xxxvii. pt. II. 142 (1919).—Limpricht, Bot. Reise Hochgeb. Chin. Ost.-Tib. 428 (1922).—Hers in Jour. N. China Branch R. As. Soc. LIII. 112 (1922); Liste Ess. Lign. Honan Sept. 17 (1922).—Chung in Mem. Sci. Soc. China, I. 116 (Cat. Trees Shrubs China) (1924).

*Lespedeza medicaginoïdes* Hemsley in Jour. Linn. Soc. xxiii. 182 (1887), pro parte, quoad specimina Bushellii et Tatarinovii.—Non Bunge.

*Lespedeza trichocarpa* Hers in Jour. N. China Branch R. As. Soc. LIII. 112 (1922); Liste Ess. Lign. Honan Sept. 17 (1922).—Non Persoon.

CHILI: hills near Nankow, *J. G. Jack*, October 5, 1905; Lan kia tun, *F. N. Meyer*, no. 1282, September 11, 1913; near Peking Jade Fountain, *N. H. Cowdry*, no. 1013, September 19, 1920; Nankow Pass, *J. Hers*, no. 1607, August 15, 1921; near Peking, western hills, *J. Hers*, no. 1616, September 4, 1921; Po hua shan, *J. Hers*, no. 1666, September 9, 1921.—See also Bunge, l. c., Maximowicz, l. c., Hance, l. c., Franchet, l. c., (1883), Hemsley, l. c., Schindler, l. c. (1913 and 1914), Limpricht, l. c., and Chung, l. c.

SHANTUNG: Tsing tau, *R. Zimmermann*, no. 253, in 1901 (Gray Herb.).—See also Debeaux, l. c., Franchet, l. c. (1884), Farms, l. c. (1904), Schindler, l. c. (1919), and Chung, l. c.

HONAN: Hwei hsien, Ta fu sze, *J. Hers*, no. 788, June 15, 1919; Yung ning, She pa pan, alt. 800 m., *J. Hers*, no. 847, October 7, 1919.—See also Hers, l. c., and Chung, l. c.

SHENSI: several localities, *G. Giralddi* (ex Harms, l. c.).

KANSU: Tsing chow, *J. Hers*, no. 2435, October 7, 1922.—See also Kanitz, l. c.

DISTRIBUTION: also Kiangsu, Hupeh, Manchuria.

*Lespedeza sericea* Miquel in Ann. Mus. Bot. Lugd.-Bat. III. 49 (1867); Prol. Fl. Jap. 237 (1867).—Schindler in Bot. Jahrb. xlix. 597 (1913), sub forma  $\alpha$  *typica*; in Bot. Centralbl. Beih. xxxvii. pt. II. 142 (1919).—Chung in Mem. Sci. Soc. China, I. 117 (Cat. Trees Shrubs China) (1924).

*Lespedeza juncea* var. *sericea* Maximowicz in Act. Hort. Petrop. II. 371, in nota (1873).—Hemsley in Jour. Linn. Soc. xxiii. 181 (1887), sub var.  $\gamma$ .—Harms in Bot. Jahrb. xxix. 415 (1900), excl. specim. Giralddii no. 1595.

*Lespedeza juncea* Debeaux in Act. Soc. Linn. Bordeaux, xxxi. 143 (Fl. Tché-Fou, 49) (1876).—Franchet in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 211 (Cat. Fl. Tché-fou) (1884).—Faber in Denkschr. Entwickl. Kiautschou, 32 (1898).—Harms in Bot. Jahrb. xxxiv. beibl. Lxxv. 44 (1904).—Non Persoon.

*Lespedeza juncea*  $\alpha$ . *juncea* Hemsley in Jour. Linn. Soc. xxiii. 181. (1887), pro parte, quoad specimina e Shantung et Kiangsi.—Non *L. juncea* Persoon.



SHANTUNG: Kiau chow region (ex Schindler, l. c. [1919]); near Chifu (ex Debeaux, l. c., Franchet, l. c., Faber, l. c., Harms, l. c. [1904], and Schindler, l. c. [1913]).—See also Hemsley, l. c., and Chung, l. c.

SHENSI: several localities, *G. Giraldi* (ex Harms, l. c., and Schindler, l. c. [1913]).

DISTRIBUTION: also eastern, central and western China to Korea, Japan, the Philippines, southern Asia, Kashmir and Afghanistan; Australia.

*Lespedeza Caraganae* Bunge in Mém. Kazan. Univ. iv. 162 ? (Pl. Mongh.-Chin. Dec. i. 11) (1835); Ann. Sci. Nat. Bot. sér. 2, vi. 59 (1836).—Turczaninov in Bull. Soc. Nat. Moscou, x. pt. vii. 151 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 471 (Ind. Fl. Pekin.) (1859); in Act. Hort. Petrop. ii. 372 (1873).—Hemsley in Jour. Linn. Bot. xxiii. 179 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 331 (1898).—Schindler in Bot. Jahrb. xlix. 602 (1913).—

CHILI: near Peking (ex Bunge, l. c., Maximowicz, l. c.).—See also Schindler, l. c., and Hemsley, l. c.

? SHANTUNG: near Chifu (ex Schindler, l. c.).

HONAN: Shao lin sse, distr. Teng fong, *A. A. Schindler*, no. 163, August, 1907.—See also Schindler, l. c.

SHENSI: several localities, *G. Giraldi* (ex Schindler, l. c.).

KANSU: Ite gol, *G. N. Potanin* (ex Schindler, l. c.).

DISTRIBUTION: endemic.

*Lespedeza inschanica* Schindler in Bot. Jahrb. xlix. 603 (1913); in Bot. Centralbl. Beih. xxxvii. pt. ii. 142 (1919).—Chung in Mem. Sci. Soc. China, i. 116 (Cat. Trees Shrubs China) (1924).

*Lespedeza juncea* var. *inschanica* Maximowicz in Act. Hort. Petrop. ii. 371, in nota (1873).—Hemsley in Jour. Linn. Soc. xxiii. 181 (1887).

? *Lespedeza Caragana* Maximowicz in Act. Hort. Petrop. ii. 372 (1873), quoad Kirilowii specimen cit.

*Lespedeza medicaginoides* Hemsley in Jour. Linn. Soc. xxiii. 182 (1887), quoad specimina Skatschkovii et Websteri.—Non Bunge.

*Lespedeza juncea* var. *α. juncea* Hemsley, l. c. 181 (1887), quoad Tatarinovii et Debeauxii specimina cit.

*Lespedeza floribunda* Harms in Bot. Jahrb. xxix. 415 (1900), quoad Giralzii specimen, no. 1593.—Non Bunge.

*Lespedeza juncea* var. *γ. sericea* Harms, l. c., quoad Giralzii specimen no. 1595.—Non Maximowicz.

*Lespedeza juncea* Pers. var. Harms in Bot. Jahrb. xxxiv. beibl. lxxv. 44 (1904).

CHILI: *C. A. Skatschkoff*, about 1850 (Gray Herb.).—See also Schindler, l. c., Hemsley, l. c., and Chung, l. c.

SHANTUNG: Tsing tau, *R. Zimmermann*, no. 279, in 1901 (Gray Herb.).—See also Schindler, l. c., and Harms, l. c. (1904).

SHENSI: Ko lu pa and Peling, *G. Giraldi*, nos. 1593 and 1595 (ex Harms, l. c. [1900]).

DISTRIBUTION: also Manchuria, Korea and Japan.

*Lespedeza juncea* Persoon Syn. Pl. II. 318 (1907).—Bunge in Mém. Kazan. Univ. IV. 161 ? (Pl. Mongh. Chin. Dec. I. 10) (1835).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 471 (Ind. Fl. Pekin.) (1859); in Act. Hort. Petrop. II. 370 (1873).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 248 (Pl. David. I. 96) (1883).—Bretschneider, Hist. Eur. Bot. Discov. China, 175 (1898).—Schindler in Bot. Jahrb. XLIX. 604 (1913); in Bot. Centralbl. Beih. XXXVII. pt. II. 142 (1919).—Cowdry in Jour. N. China Branch R. As. Soc. LIII. 163 (Pl. Peitaiho) (1922).—Chung in Mem. Sci. Soc. China, I. 117 (Cat. Trees Shrubs China) (1924).

*Lespedeza juncea* var. *α. juncea* Hemsley in Jour. Linn. Soc. XXIII. 181 (1887), pro parte, quoad Stauntonii et Davidii specimina cit.

CHILI: hills near Peking, S. W. Williams, August, 1876 (Gray Herb.); near Tan wka, on rocky mountains slopes, alt. 1600 m., F. N. Meyer, no. 1109, August 4, 1913 (Herb. U. S. Dept. Agric.); Pei tai ho, Lotus hills, N. H. Cowdry, no. 508, September 4, 1919.—See also Bunge, l. c., Maximowicz, l. c., Franchet, l. c., Bretschneider, l. c., Schindler, l. c. (1913), Cowdry, l. c., and Chung, l. c.

SHANTUNG: Tsing tau, Krug, no. 357, and Chifu, Wawra, no. 1248 (ex Schindler, l. c.).—See also Chung, l. c.

DISTRIBUTION: also eastern Siberia.

*Lespedeza daurica* Schindler in Fedde, Rep. Spec. Nov. XXII. 274 (1926).

*Trifolium dauricum* Laxmann in Nov. Comm. Acad. Petrop. xv. 560, t. 30, fig. 5 (1771).

*Lespedeza trichocarpa* Persoon, Syn. Pl. II. 318 (1807).—Bunge in Mém. Kazan Univ. IV. 161? (Pl. Mongh.-Chin. Dec. I. 10) (1835).—Turezaninov in Bull. Soc. Nat. Moscou, x. pt. VII. 151 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 471 (1859); in Act. Hort. Petrop. II. 375 (1873).—Debeaux in Act. Soc. Linn. Bordeaux, XXXI. 142 (Fl. Tché-Fou, 47) (1876).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 249 (Pl. David. I. 97) (1883); in Mém. Soc. Sci. Nat. Cherbourg, XXIV. 211 (Cat. Pl. Tché-fou) (1884).—Hemsley in Jour. Linn. Soc. XXIII. 183 (1887).—Palibin in Act. Hort. Petrop. XIV. 115 (1895). Faber in Denkschr. Entwickl. Kiautschou, 32 (1898).—Bretschneider, Hist. Eur. Bot. Discov. China, 53 (1898).—Harms in Bot. Jahrb. XXIX. 415 (1900); XXXIV. beibl. LXXV. 44 (1904).—Schindler in Bot. Jahrb. XLIX. 606 (1913); in Bot. Centralbl. Beih. XXXVII. pt. II. 142 (1919).—Limpricht, Bot. Reis. Hochgeb. Chin. Ost.-Tib. 429 (1922).—Cowdry in Jour. N. China Branch. R. As. Soc. LIII. 163 (Pl. Pei tai ho) (1922).

*Lespedeza medicaginoides* Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 93 (Enum. Pl. Chin. Bor. 19) (1833).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 470 (Ind. Fl. Pekin.) (1859).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 248 (Pl. David. I. 96) (1883).—Hemsley in Jour. Linn. Soc. XXIII. 182 (1887), pro parte, quoad Stauntonii et Williamsii specimina citata.—Bretschneider, Hist. Eur. Bot. Discov. China, 175, 332 (1898).

*Lespedeza juncea* var. *α. juncea* Hemsley in Jour. Linn. Soc. XXIII. 181 (1887), quoad Bushellii specimen cit.—Non Maximowicz.

CHILI: hills near Peking, S. W. Williams, August 1876 (Gray Herb.); Pei tai ho, on sand hummocks, N. H. Cowdry, no. 383, August 1, 1919; roadside south of Peking, N. H. Cowdry, no. 507, June 6, 1920.—See

also Bunge, l. c., Turczaninov, l. c., Maximowicz, l. c., Franchet, l. c. (1883), Hemsley, l. c., Bretschneider, l. c., Limpricht, l. c., and Cowdry, l. c.

SHANTUNG: Tsing tau, *R. Zimmermann*, no. 246, in 1901 (Gray Herb.); near Chifu, *N. H. Cowdry*, nos. 602, 603, 604, July and August 1, 1920.—See also Debeaux, l. c., Franchet, l. c. (1884), Faber, l. c., Harms, l. c. (1904), and Schindler, l. c.

SHENSI: several localities, *G. Giraldi* (ex Harms, l. c.).

DISTRIBUTION: also Hupeh to Yunnan, eastern Siberia to Korea.

*Lespedeza virgata* De Candolle, Prodr. II. 350 (1825).—Franchet, in Mém. Soc. Sci. Nat. Cherbourg, XXIV. 212 (Cat. Pl. Tché-fou) (1884).—Hemsley in Jour. Linn. Soc. XXIII. 183 (1887).—Faber in Denkschr. Entw. Kiautschou, 32 (1898).—Harms in Bot. Jahrb. XXXIV. beibl. LXXV. 44 (1904); XXXVI. beibl. LXXXII. 70 (1905).—Schindler in Bot. Jahrb. XLIX. (1913); in Bot. Centralbl. Beih. XXXVII. pt. II. 142 (1919).—Cowdry in Jour. N. China Branch R. As. Soc. LIII. 163 (Pl. Peitaiho) (1922).

CHILI: Lotus hills, near Pei tai ho, *N. H. Cowdry*, no. 166, August 25, 1919.—See also Cowdry, l. c.

SHANTUNG: Tsing tau, *R. Zimmermann*, no. 253, in 1901 (Gray Herb.).—See also Franchet, l. c., Hemsley, l. c., Faber, l. c., Harms, l. c. (1904), and Schindler, l. c. (1919).

SHENSI: without locality (ex Harms, l. c. [1905]).

DISTRIBUTION: also eastern and central China, Korea and Japan.

*Lespedeza tomentosa* Siebold apud Maximowicz in Act. Hort. Petrop. II. 376 (1873).—Debeaux in Act. Soc. Linn. Bordeaux, XXXI. 141 (Fl. Tché-Fou, 46) (1876).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 247 (Pl. David. I. 97) (1883); in Mém. Soc. Sci. Nat. Cherbourg, XXIV. 212 (Cat. Pl. Tché-fou) (1884).—Harms in Bot. Jahrb. XXXIV. beibl. LXXV. 44 (1904); XXXVI. beibl. LXXXII. 70 (1905).—Schindler in Bot. Jahrb. XLIX. 622 (1913); in Bot. Centralbl. Beih. XXXVII. pt. II. 143 (1919).—Cowdry in Jour. N. China Branch R. As. Soc. LIII. 163 (Pl. Peitaiho) (1922).

*Lespedeza villosa* Persoon, Syn. Pl. II. 318 (1807).—Hemsley in Jour. Linn. Soc. XXIII. 183 (1887).—Faber in Denkschr. Entw. Kiautschau, 32 (1898).—Bretschneider, Hist. Eur. Bot. Discov. China, 331 (1898).

*Lespedeza macrophylla* Bunge in Mém. Kazan. Univ. IV. 161 ? (Pl. Mongh.-Chin. Dec. I. 10) (1836).—Turczaninov in Bull. Soc. Moscou, x. pt. VII. 151 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 470 (Ind. Fl. Pekin.) (1859).

CHILI: Peking, *S. W. Williams*, August 1867, Herb. Hance no. 6520 (Gray Herb.); near Pei tai ho, *N. H. Cowdry*, no. 509, July, 1919.—See also Maximowicz, l. c., Franchet, l. c. (1883), Cowdry, l. c., Hemsley, l. c., Bunge, l. c., and Turczaninov, l. c.

SHANTUNG: without precise locality, *Li Tai-fang*, August 9, 1915, Herb. Univ. Nanking, no. 970.—See also Maximowicz, l. c., Debeaux,



l. c., Franchet, l. c. (1884), Harms, l. c. (1904), Schindler, l. c. (1919), and Hemsley, l. c.

SHENSI: without precise locality (ex Harms, l. c. [1905]).

DISTRIBUTION: also eastern to western China; eastern Siberia to Korea and Japan; Kashmir.

Only the species of the section *Macrolespedeza* to which the first four species belong and *L. floribunda* of section *Eulespedeza* can be considered true shrubs, while all the other species of *Eulespedeza* enumerated are but suffruticose.

*Campylotropis macrocarpa* Rehder in Sargent, Pl. Wilson. II. 113, in nota (1914).—Hers in Jour. N. China Branch R. As. Soc. LIII. 107 (1922); Liste Ess. Lign. Honan Sept. 5 (1922).—Chung in Mem. Sci. Soc. China, I. 117 (Cat. Trees Shrubs China) (1924).

*Lespedeza macrocarpa* Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 92 (Enum. Pl. Chin. Bor. 18) (1833).—Maximowicz in Act. Hort. Petrop. II. 351 (1873).—Hemsley in Jour. Linn. Soc. XXIII. 182 (1887).—Bretschneider, Hist. Eur. Bot. Discov. China, 332 (1898).

*Campylotropis chinensis* Bunge in Mém. Kazan. Univ. IV. 158? (Pl. Mongh.-Chin. Dec. I. 7) (1835); in Ann. Sci. Nat. Bot. sér. 2, VI. 58 (1836).—Turczaninov in Bull. Soc. Nat. Moscou, X. pt. VII. 151 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 471 (Ind. Fl. Pekin.) (1859).—Schindler in Bot. Jahrb. XLIX. 340 (1923); in Sargent, Pl. Wilson. II. 113 (1914).

CHILI: Pagoda Hill, near Summer Palace, Peking, *C. S. Sargent*, September 17, 1903; near Nankow and hills near Great Wall, *J. G. Jack*, October 5, 1905; Ying tan ko, *F. N. Meyer*, no. 1182, September 12, 1913; near Wo fu su, hunting park, *N. H. Cowdry*, no. 1012, September 27, 1920; Nankow pass, *J. Hers*, no. 1602, August 15, 1921; Peking, western hills, *J. Hers*, no. 1615, September 4, 1921; Hsiao Wu tai shan, Shui shih tao, alt. 1500 m., *J. Hers*, no. 2177, October 8, 1922; without precise locality, *Père Chanet*, no. 70, in 1919.—See also Bunge, l. c., Maximowicz, l. c., Hemsley, l. c., Turczaninov, l. c., Schindler, l. c. (1914), and Chung, l. c.

HONAN: Sung hsien, Shih tze miao, alt. 1200 m., *J. Hers*, no. 1290, September 25, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, no. 1767, September 21, 1921; without precise locality, *J. Hers*, no. 1993, in 1922.—See also Hers, l. c., and Chung, l. c.

SHANSI: Hia hsien, Huang lai kow, *J. Hers*, no. 1869, October 2, 1921.

SHENSI: Hua shan, alt. 1000 m., *J. Hers*, no. 3106, October 31, 1924.

DISTRIBUTION: also eastern to western China.

*Campylotropis Giralddii* Schindler in Fedde, Rep. Spec. Nov. IX. 518 (1911); XI. 340 (1912).—Chung in Mem. Sci. Soc. China, I. 117 (Cat. Trees Shrubs China) (1924).

*Lespedeza macrocarpa* Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 246 (Pl. David. I. 94) (1883).—Diels in Bot. Jahrb. XXIX. 414 (1900), quoad *Giralddii* specimina cit.—Non Bunge.

CHILI: mountains near Peking (ex Franchet, l. c., and Schindler, l. c. [1912]).

HONAN: Yung ning, Tsi li ping, *J. Hers*, no. 462, May 22, 1919; Yung ning, Yo tze pin, alt. 1000 m., *J. Hers*, no. 836, October 5, 1919; Lu shih, Lao kiun shan alt. 2000 m., *J. Hers*, no. 1199, September 21, 1919; without precise locality, *J. Hers*, no. 41, in 1918.—See also Schindler, l. c. (1911).

SHANSI: Nan fang shan, alt. 1500–2500 m., *J. Hers*, no. 2732, September 22–30, 1923.

SHENSI: several localities, *G. Giraldi* (ex Schindler, l. c. [1911]).

DISTRIBUTION: also Formosa (*Wilson*, no. 11097, det. A. K. Schindler).

Except in its pubescent fruit this species differs little if at all from *C. macrocarpa* Rehd. and may be considered only a form of that species; also the fact that it occurs within the northern part of the range of *C. macrocarpa* seems to point that way. The Formosan specimen differs in its smaller nearly glabrous leaves bright green on both sides and distinctly reticulate and it probably represents a different form. The leaves of *C. Giralidii* vary from glabrescent as in Hers' no. 2732 to densely villous-pubescent and the inflorescence may have a glabrescent peduncle and rather slightly appressed-pubescent pedicels or it may be densely covered with villose spreading hairs throughout sometimes interspersed with glandular hairs as in Hers' no. 41.

*Dalbergia hupeana* Hance in Jour. Bot. xx. 5 (1882).—Bailey, Gent. Herb. i. 31 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 109 (1922); Liste Ess. Lign. Honan Sept. 10 (1922).—Chung in Mem. Sci. Soc. China, i. 118 (Cat. Trees Shrubs China) (1924).

HONAN: Chikung shan, *L. H. Bailey*, June 13, 1917; Teng feng, Yu tai shan, alt. 800 m., *J. Hers*, no. 287, June 17, 1919; Yung ning, Tsi li ping, alt. 1100 m., *J. Hers*, nos. 414, and 1359, May 22 and September 30, 1919; Yung ning, Tieh lu ping, alt. 800 m., *J. Hers*, no. 1103, October 16, 1919; Siao Hsien, Huang tsang yu, alt. 200 m., *J. Hers*, no. 1013, April 25, 1919; Tsi yuan hsien, alt. 500 m., *J. Hers*, no. 2649, August 22, 1923; Ki kung shan, *A. N. Steward*, July, 1925, Herb. Univ. Nanking, no. 9689; without precise locality, *J. Hers*, no. 1991, in 1922.—See also Hers, l. c., and Chung, l. c.

NORTHERN KIANGSU: Hai chow hills, alt. 200 m., *Kang Fu Lai*, Hers no. 2261, October 8, 1922; Su chow fu, Huang tsang yu, alt. 200 m., *J. Hers*, nos. 1065, 2813, November 1, 1919 and October 15, 1923.

DISTRIBUTION: also eastern to central China.

*Dalbergia Dyeriana* Prain in Jour. As. Soc. Beng. LXX. 44 (Novic. Ind. 370) (1901).—Harms in Bot. Jahrb. xxxvi. beib'. LXXXII. 70 (1905).

SHENSI: Lean shan, *G. Giraldi*, no. 4032 (ex Harms, l. c.).

DISTRIBUTION: also Hupeh, Szechuan and Yunnan.

*Vicia unijuga* A. Braun in Ind. Sem. Hort. Berol. 1853, p. 12.—Maximowicz in Bull. Acad. Sci. St. Pétersb. xviii. 394 (1873); in Mém. Biol.

IX. 65 (1873).—Debeaux in Act. Soc. Linn. Bordeaux, xxxi. 146 (Fl. Tché-Fou, 51) (1876).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 251 (Pl. David. i. 99) (1883); in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 212 (Cat. Pl. Tché-fou) (1884).—Hemsley in Jour. Linn. Soc. xxiii. 186 (1887).—Palibin in Act. Hort. Petrop. xiv. 115 (1895).—Faber in Denkschr. Entwick. Kiautschou, 33 (1898).—Harms in Bot. Jahrb. xxix. 416 (1900); xxxiv. beibl. lxxv. 45 (1904).—Farrer in Jour. Roy. Hort. Soc. xlii. 114 (1916).—Harms & Loesener in Bot. Centralbl. Beih. xxxvii. pt. ii. 143 (1919).—Limpricht, Bot. Reis. Hochgeb. Chin. Ost.-Tib. 429 (1922).—Cowdry in Jour. N. China Branch R. As. Soc. liii. 163 (Pl. Peitaiho) (1922).—Chung in Mem. Sci. Soc. China, i. 119 (Cat. Trees Shrubs China) (1924).

*Orobis lathyroides* Linnaeus, Spec. ii. 728 (1753).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 470 (Ind. Fl. Pekin.) (1859).

CHILI: Pei tai ho, *N. H. Cowdry*, no. 70, July, 1919.—See also Maximowicz, l. c., Franchet, l. c. (1883), Hemsley, l. c., Palibin, l. c., Limp-richt, l. c., Cowdry, l. c., and Chung, l. c.

SHANTUNG: Tsing tau, *R. Zimmermann*, no. 218, in 1901 (Gray Herb.).—See also Debeaux, l. c., Franchet, l. c. (1884), Hemsley, l. c., Faber, l. c., Harms, l. c. (1904), Harms & Loesener, l. c., and Chung, l. c.

SHENSI: Ki shan and Tai pei shan, *G. Giralaldi* (ex Harms, l. c. [1900]).—See also Chung, l. c.

KANSU: Satanee range (ex Farrer, l. c.).

DISTRIBUTION: also Kiangsi and through Hupeh and Szechuan to Yunnan; eastern Siberia to Korea and Japan.

*Pueraria Thunbergiana* Benth in Jour. Linn. Soc. ix. 122 (1867).—Maximowicz in Bull. Soc. Nat. Moscou, liv. 9 (Fl. As. Or. Fragm.) (1879).—Franchet in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 213 (Fl. Tché-fou) (1884).—Hemsley in Jour. Linn. Soc. xxiii. 191 (1887).—Faber in Denkschr. Entwick. Kiautschou, 33 (1898).—Bretschneider, Hist. Eur. Bot. Discov. China, 1051 (1898).—Harms in Bot. Jahrb. xxix. 417 (1900); xxxiv. beibl. lxxv. 45 (1904).—Harms & Loesener in Bot. Centralbl. Beih. xxxvii. pt. ii. 144 (1919).—Cowdry in Jour. N. China Branch R. As. Soc. liii. 163 (Pl. Peitaiho) (1922).

*Pueraria hirsuta* Schneider, Ill. Handb. Laubholz. ii. 114, fig. 72 (1907).—Bailey, Gent. Herb. i. 32 (1920).—Hers in Jour. N. China Branch R. As. Soc. liii. 114 (1922); Liste Ess. Lign. Honan Sept. 23 (1922).—Chung in Mem. Sci. Soc. China, i. 121 (Cat. Trees Shrubs China) (1924).—Non Kurz.

CHILI: near Peking (ex Maximowicz, l. c., and Hemsley, l. c.).—See also Cowdry, l. c., and Chung, l. c.

SHANTUNG: Tsingtau, *R. Zimmermann*, no. 244, in 1901.—See also Franchet, l. c., Hemsley, l. c., Faber, l. c., Harms, l. c. (1904), Harms & Loesener, l. c., and Chung, l. c.

HONAN: Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 115 d, September 21, 1919; Lushih, Tung ho, alt. 1000 m., *J. Hers*, no. 988,



October 14, 1919; Lushih, Ta she ho, *J. Hers*, no. 999, October 14, 1919; Yung ning, Tsi li ping, *J. Hers*, no. 474 May 22, 1919.—See also Bailey, l. c., Hers, l. c., and Chung, l. c.

SHENSI: Tai pei shan, *W. Purdom*, no. 958, in 1910.—See also Harms, l. c. (1900), and Chung, l. c.

DISTRIBUTION: throughout China; Korea and Japan, Formosa and Philippine Islands.

### ZYGOPHYLLACEAE

*Zygophyllum xanthoxylum* Maximowicz, *Fl. Tangut.* 103 (1889).—Engler in Engler & Prantl, *Nat. Pflanzenfam.* abt. 3, iv. 81 (1890).

*Sarcozygium xanthoxylum* Bunge in *Linnaea*, xvii. 8, t. 1 (1843).—Walpers *Rep.* v. 385 (1845).—Hance in *Jour. Bot.* xx. 258 (1882).—Hemsley in *Jour. Linn. Soc.* xxiii. 97 (1887).

KANSU: (ex Maximowicz, l. c., and Hemsley, l. c.).

DISTRIBUTION: also Mongolia and Sinkiang.

*Nitraria Schoberi* Linnaeus, *Spec. ed.* 2. 638 (1762).—Hemsley in *Jour. Linn. Soc.* xxiii. 97 (1887).—Maximowicz, *Fl. Tangut.* 102 (1889).—Kanitz in Szechenyi, *Keletasz. Utján. Tudom. Ered.* ii. 801 (Pl. Enum. 12) (1891); in Szechenyi, *Wiss. Ergeb. Reise Ostas.* ii. 688 (1898).—Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Inv. Seeds Pl, Imp. xxxvii. 67, no. 36800 (1916).—Farrer in *Jour. Roy. Hort. Soc.* xlii. 86 (1916).—Chung in *Mem. Sci. Soc. China*, i. 122 (Cat. Trees Shrubs China) (1924).

CHILI: Tientsin, *F. N. Meyer*, no. 1226, June 18, 1913; near Taku, *N. H. Cowdry*, no. 597, June 20, 1920.—See also Chung, l. c.

SHENSI (or Kansu?): "Tsung lin range, Piasezki ex Maximowicz" (ex Hemsley, l. c.).—See also Chung, l. c.

KANSU: between Titao and Lanchow, *J. Rock*, no. 13240, August, 1925.—See also Kanitz, l. c., and Farrer, l. c.

DISTRIBUTION: also Syria to Turkestan and Mongolia.

### RUTACEAE

*Zanthoxylum simulans* Hance in *Ann. Bot. sér.* 5, v. 208 (1866), sub *Xanthoxylum*.

*Zanthoxylum nitidum* Bunge in *Mém. Div. Sav. Acad. Sci. St. Pétersb.* ii. 87 (Enum. Pl. Chin. Bor. 13) (1833).—Maximowicz in *Mém. Div. Sav. Acad. Sci. St. Pétersb.* ix. 470 (Ind. Fl. Pekin.) (1859).—Non De Candolle.

*Zanthoxylum Bungei* Planchon in *Ann. Sci. Nat. sér.* 3, xix. 82 (1853), nom. nudum.—Hance in *Jour. Bot.* xiii. 131 (1875), sub *Xanthoxylum*; non 1866.—Franchet in *Nouv. Arch. Mus. Paris, sér.* 2, v. 218 (Pl. David. i. 66) (1883).—Hemsley in *Jour. Linn. Soc.* xxiii. 105 (1886).—Maximowicz, *Fl. Tangut.* 107 (1889); in *Act. Hort. Petrop.* xi. 93 (1889).—Pritzel in *Bot. Jahrb.* xxix. 421 (1900), sub *Xanthoxylum*.—Loesener in *Bot. Jahrb.* xxxiv. beibl. lxxv. 47 (1904); in *Bot. Centralbl. Beih.* xxxvii. pt. ii. 146 (1919), sub *Xanthoxylum*.—Rehder & Wilson in Sargent, *Pl. Wilson.* ii. 121 (1914).—Hers in *Jour. N. China Branch R. As. Soc.* liii. 117 (1922); *Liste Ess. Lign. Honan* Sept. 34 (1922).—Cowdry in *Jour. N. China Branch R. As. Soc.* liii. 161 (Pl. Peitaiho) (1922).—Chung in *Mem. Sci. Soc. China*, i. 122 (Cat. Trees Shrubs China) (1924).

*Zanthoxylum Bungeanum* Maximowicz in Bull. Acad. Sci. St. Pétersb. xvi. 212 (1871); in Mém. Biol. viii. 2 (1871).

*Zanthoxylum Bungei* var. *imperfuratum* Franchet in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 205 (Cat. Pl. Tché-fou) (1884).

CHILI: Peking, *C. A. Skatschkoff*, about 1850; near Peking, in a hedge, *C. S. Sargent*, September 16, 1903; Tientsin, cultivated, *F. N. Meyer*, no. 1003, June 16, 1913; Ta han ling, *J. Hers*, no. 1641, September 7, 1921.—See also Maximowicz, l. c., Bunge, l. c., Hance, l. c., Franchet, l. c. (1883), Hemsley, l. c., Rehder & Wilson, l. c., Cowdry, l. c., and Chung, l. c.

SHANTUNG: near Chifu, side of cultivated orchard, *N. H. Cowdry*, no. 592, July 10, 1920.—See also Hemsley, l. c., Maximowicz, l. c. (1890), Loesener, l. c., Chung, l. c., and Franchet, l. c. (1884).

NORTHERN KIANGSU: Liu lin shan, near Hai chow, *J. Hers*, no. 604, May 5, 1921; Hai chow hills, alt. 200 m., *Kang Fu Lai*, *Hers* no. 2290, October 8, 1922.

HONAN: Lushih, Tang ho, alt. 1000 m., *J. Hers*, no. 959, October 11, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, no. 1790, September 21, 1921; Tsi yuan hsien, alt. 500 m., *J. Hers*, no. 2655, August 22, 1923.—See also *Hers*, l. c.

SHENSI: "Lao-y-san," *G. Giraldis*, September 6, 1897; Tai pei shan, *W. Purdom*, no. 1042, in 1910.—See also Pritzell, l. c., Rehder & Wilson, l. c., and Chung, l. c.

KANSU: Tsing chow, Kuan tji cher, alt. 100 m., *J. Hers*, no. 2416, July, 1922.

DISTRIBUTION: also Chekiang, Kiangsi, Hupeh, Szechuan, Fukien; Manchuria, Korea.

This species has been generally known as *Z. Bungei* Planchon, but this is unfortunately a nomen nudum, being neither accompanied by a description nor referable to a previous description, for the synonym on which it is based, *Z. nitidum* Bunge, not De Candolle, is itself a nomen nudum. The matter is made still more complicated by the fact that Hance in 1866 (in Ann. Sci. Nat. sér. 5, v. 209) published as *Xanthoxylum Bungei* a species with a complete description, based on a plant from Fukien distributed by him a few years earlier as *X. planispinum*. This plant was considered by Bentham to be identical with *Z. nitidum* Bge. and this apparently induced Hance to call his plant *X. Bungei*, not having at the time of writing (in December, 1864) any knowledge of Planchon's earlier use of the same name. The description, however, fits *Zanthoxylum alatum* Roxb. much better than Bunge's plant, and Hemsley who has seen the specimen, refers Hance's name to *Z. alatum*, though he enumerates Hance's no. 1480 (?misprint for no 1460 cited by Hance for his *X. Bungei*) in part at least under *Z. Bungei* Planchon.

The next oldest name for this species appears to be *Z. simulans* Hance, though this represents apparently a small-leaved form, somewhat differing from the better known northern plant in its much smaller

leaflets (3–11 lines long and 2–6 lines broad according to Hance), more prickly beneath and occasionally so above; specimens from near Amoy, Fukien, approaching this form are represented in our herbarium by Herb. Univ. Amoy nos. 1596, 1761 and the less extreme no. 1490.

***Zanthoxylum simulans* var. *Zimmermannii*, comb. nov.**

*Zanthoxylum Bungei* Loesener in Bot. Jahrb. xxxiv. beibl. lxxv. 47 (1904), quoad specim. *Zimmermannii* no. 460.

*Zanthoxylum Bungei* var. *Zimmermannii* Rehder & Wilson in Sargent, Pl. Wilson. II. 122 (1914).

SHANTUNG: Tsing tau, *R. Zimmermann*, no. 460, in 1901.—See also Loesener, l. c., and Rehder & Wilson, l. c.

DISTRIBUTION: also Korea.

***Zanthoxylum Piasezkii* Maximowicz in Act. Hort. Petrop. xi. 93 (1889).**

*Zanthoxylum piperitum* Maximowicz apud Hemsley in Jour. Linn. Soc. xxiii. 106 (1886); quoad specim. *Piasezkii*.—?Pritzel in Bot. Jahrb. xxix. 421 (1900).—Non De Candolle.

SHENSI: near Kwan yin tang, *F. N. Meyer*, nos. 1735, 1736, September 15, 1914 (Herb. U. S. Dept. Agric.).—See also Pritzel, l. c.

KANSU: near Yan pu ko, *F. N. Meyer*, no. 1976, October 7, 1914. (Herb. U. S. Dept. Agric.).—See also Maximowicz, l. c.

DISTRIBUTION: also Szechuan and Yunnan.

There is also in this herbarium a specimen of a plant raised in Hort. H. A. Hesse, Weener, Germany, from seed sent by Giraldi, which represents *Z. Piasezkii*.

*Zanthoxylum setosum* Hemsley in Jour. Linn. Soc. xxiii. 107 (1886).—Bailey, Gent. Herb. i. 33 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 117 (1922); Liste Ess. Lign. Honan Sept. 34 (1922).—Chung in Mem. Sci. Soc. China, i. 123 (Cat. Trees Shrubs China) (1924).

HONAN: Sung hsien, San kuan miao, alt. 1000 m., *J. Hers*, no. 1297, September 27, 1919 (a small tree 3 m. tall); Kioshan, *L. H. Bailey*, June 20, 1917.—See also Bailey, l. c., and Hers, l. c.

DISTRIBUTION: also Kiangsi, Chekiang, Hupeh and Szechuan.

The specimens cited above are much less hairy than the type.

*Zanthoxylum undulatifolium* Hemsley in Ann. Bot. ix. 148 (1895).—Pritzel in Bot. Jahrb. xxix. 421 (1920).—Rehder & Wilson in Sargent, Pl. Wilson. II. 124 (1914).—Chung in Mem. Sci. Soc. China i. 124 (Cat. Trees Shrubs China) (1924).

SHENSI: Kin san, *G. Giraldi*, in 1897; Tai pei shan, *W. Purdom*, no. 1147, in 1910.—See also Pritzel, l. c., Rehder & Wilson, l. c., and Chung, l. c.

DISTRIBUTION: also Hupeh and Szechuan.

*Zanthoxylum alatum* Roxb. var. *planispinum* Rehder & Wilson in Sargent, Pl. Wilson. II. 125 (1916).—Bailey, Gent. Herb. i. 33 (1920).—Chung in Mem. Sci. Soc. China, i. 122 (Cat. Trees Shrubs China) (1924).



*Zanthoxylum planispinum* Siebold & Zuccarini in Abh. Akad. Münch. iv. pt. II. 138 (Fl. Jap. Fam. Nat. i. 30) (1846).—Maximowicz in Act. Hort. Petrop. xi. 95 (1890).—Pritzel in Bot. Jahrb. xxix. 421 (1900), sub *Xanthoxylum*.

*Zanthoxylum alatum* Hemsley in Jour. Linn. Soc. xxiii. 105 (1886), pro parte.—Pritzel in Bot. Jahrb. xxix. 421 (1900).—Hers in Jour. N. China Branch R. As. Soc. LIII. 117 (1922); Liste Ess. Lign. Honan Sept. 34 (1922).

HONAN: Chikung shan, *L. H. Bailey*, June 29, 1917; Teng feng hsien, Yu tai shan, alt. 800 m., *J. Hers*, no. 279, June 17, 1919; Sung hsien, Shih tze miao, alt. 1200 m., *J. Hers*, no. 594, May 26, 1919; Yung ning, Tieh lu ping, alt. 800 m., *J. Hers*, no. 1001, October 16, 1919.—See also Hers, l. c., and Chung, l. c.

SHENSI: Nan to tchu, *F. N. Meyer*, no. 1844, January 20, 1914; near Sze nu hsien, *F. N. Meyer*, no. 1893, September 1, 1914 (Herb. U. S. Dept. Agric.).—See also Maximowicz, l. c., Pritzel, l. c., and Chung, l. c.

KANSU: Tsung-lin, *P. J. Piasezki* (ex Maximowicz, l. c.).

DISTRIBUTION: also throughout China southward; Korea and Japan.

*Zanthoxylum piperitum* De Candolle, Prodr. i. 725 (1825).—Franchet in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 205 (Cat. Pl. Tché-fou).—Hemsley in Jour. Linn. Soc. xxiii. 107 (1886), excl. specimine Piasekii cit.—Faber in Denkschr. Entwick. Kiautschou, 33 (1898).—Loesener in Bot. Jahrb. xxxiv. beibl. LXXV. 47 (1904); in Bot. Centralbl. Beih. xxxvii. pt. II. 146 (1919).—Chung in Mem. Sci. Soc. China, i. 123 (Cat. Trees Shrubs China) (1924).

? SHANTUNG: Chifu (ex Franchet, l. c.) and Kiauchou (ex Faber, l. c.).—See also Hemsley, l. c., Loesener, l. c., and Chung, l. c.

DISTRIBUTION: also Korea, Japan.

It is very doubtful if *Z. piperitum* occurs in China. I have seen no Chinese specimen and Hemsley cites it only on the authority of Franchet and Loesener on that of Faber. These authors probably confused it with the following species which is similar in general appearance, though very distinct in the structure of its flowers and the arrangement of the prickles.

*Zanthoxylum schinifolium* Siebold & Zuccarini in Abh. Akad. Münch. iv. pt. II. 137 (Fl. Jap. Fam. Nat. i. 29) (1846).—Hance in Jour. Bot. xxi. 296 (1883).—Franchet, in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 205 (Cat. Pl. Tché-fou) (1884).—Hemsley in Jour. Linn. Soc. xxiii. 107 (1886).—Bailey, Gent. Herb. i. 33 (1920).—Cowdry in Jour. N. China Branch R. As. Soc. LIII. 161 (Pl. Peitaiho) (1922).—Chung in Mem. Sci. Soc. China, i. 123 (Cat. Trees Shrubs China) (1924).

*Fagara schinifolia* Engler in Engler & Prantl, Nat. Pflanzenfam. III. abt. IV. 118 (1896).—Loesener in Bot. Jahrb. xxxiv. beibl. LXXV. 47 (1904); in Bot. Centralbl. Beih. xxxvii. pt. II. 147 (1919).

*Xanthoxylum* sp. Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Seeds Pl. Imp. Inv. XII. 27, 62, nos. 17181, 17951 (1907).

CHILI: Shan hai kwan, *F. N. Meyer*, no. 203, October, 1905; Lotus hills, Pei tai ho, *N. H. Cowdry*, no. 172, August, 1919.—See also Cowdry, l. c.

SHANTUNG: Lau shan, *F. N. Meyer*, nos. 276, 295, August, 1907; Chifu (ex Hance, l. c., Franchet, l. c., and Hemsley, l. c.) and Kiau chou district (ex Loesener, l. c.).—See also Chung, l. c.

HONAN: Chi kung shan (ex Bailey, l. c.).—See also Chung, l. c.

DISTRIBUTION: also Chekiang, Kiangsi, Hupeh, Szechuan; Korea, Japan.

*Zanthoxylum schinifolium* f. *macrocarpum*, comb. nov.

*Fagara schinifolia* Engl. f. *macrocarpa* Loesener in Bot. Jahrb. xxxiv. beibl. lxxv. 47 (1904); in Bot. Centralbl. Beih. xxxvii. pt. ii. 147 (1919).

SHANTUNG: Tsingtau (ex Loesener, l. c.).

*Evodia Daniellii* Hemsley in Jour. Linn. Soc. xxiii. 104 (1886).—Rehder & Wilson in Sargent, Pl. Wilson. ii. 135 (1914).—Loesener in Bot. Centralbl. Beih. xxxvii. pt. ii. 147 (1919).—Chung in Mem. Sci. Soc. China, i. 124 (Cat. Trees Shrubs China) (1924).

*Zanthoxylum Daniellii* Bennett in Ann. Nat. Hist. sér. 3, x. 201, fig. 5 (1862).

*Zanthoxylum Bretschneideri* Maximowicz in Bull. Acad. Sci. St. Pétersb. xxix. 73 (1884); in Mém. Biol. xi. 655 (1884).—Hemsley in Jour. Linn. Soc. xxiii. 105 (1886).

*Fagara ailanthoides* Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Seeds Pl. Imp. Inv. xiv. 46, no. 22342 (1909).—Non Engler.

CHILI: mountains near Peking, *E. Bretschneider*, no. 152 (Gray Herb.).—See also Hemsley, l. c., Rehder & Wilson, l. c., Chung, l. c., and Maximowicz, l. c.

SHANTUNG: Lau shan, *F. N. Meyer*, nos. 278, 314, 382, August, 1907; Poa shan, *F. N. Meyer*, no. 262, September, 1907.—See also Loesener, l. c., Chung, l. c., and Meyer, l. c.

DISTRIBUTION: also Manchuria, Korea.

*Evodia hupehensis* Dode in Bull. Soc. Bot. France, LV. 707 (1908).—Rehder & Wilson in Sargent, Pl. Wilson. ii. 133 (1914).—Hers in Jour. N. China Branch R. As. Soc. LIII. 110 (1922); Liste Ess. Lign. Honan Sept. 12 (1922).—Chung in Mem. Sci. Soc. China, i. 124 (Cat. Trees Shrubs China) (1924).

*Evodia Daniellii* Pritzl in Bot. Jahrb. xxix. 423 (1900), pro parte.—Non Hemsley.

HONAN: Sung hsien, San kuan miao, alt. 1200 m., *J. Hers*, no. 543, May 24, 1919; Hwei hsien, Chung hu, *J. Hers*, no. 739, June 17, 1919; without precise locality, *J. Hers*, no. 3, 1918.

SHENSI: without precise locality, *G. Giraldis*, 1897; Ku san, *Hugh Scallan*, no. 75, about 1898; Mt. Miao nan san, *Hugh Scallan*, about 1898.—See also Rehder & Wilson, l. c., Chung, l. c., and Pritzl, l. c.

DISTRIBUTION: also Hupeh, southeastern Szechuan.

*Evodia Henryi* Dode in Bull. Soc. Bot. France, LV. 706 (1908).—Rehder & Wilson in Sargent, Pl. Wilson. ii. 133 (1914).—Hers in Jour. N. China Branch R. As. Soc. LIII. 110 (1922); Liste Ess. Lign. Honan Sept. 12 (1922).—Chung in Mem. Sci. Soc. China, i. 124 (Cat. Trees Shrubs China) (1924).

? *Zanthoxylum Daniellii* Maximowicz in Act. Hort. Petrop. xi. 93 (1898).—Non Bennett.

*Evodia Daniellii* Pritzelt in Bot. Jahrb. xxix. 423 (1900), pro parte.—Non Hemsley.

*Evodia rutaecarpa* Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Inv. Seeds Pl. Imp. XLIII. 71, no. 40719 (1918).—Non Benthham.

HONAN: Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1157, September 21, 1919.—See also *Hers*, l. c.

SHANSI: Hsi po po, *F. N. Meyer*, no. 1871, July 10, 1914 (Herb. U. S. Dept. Agric.; sterile).

SHENSI: Houan ton shan, *Hugh Scallan*, about 1897; Tai pei shan, *W. Purdom*, no. 1038, in 1910; Tchan lien li, *F. N. Meyer*, no. 1929, September 17, 1914.—See also Rehder & Wilson, l. c., Chung, l. c., Pritzelt, l. c., and Meyer, l. c.

? KANSU: on the river Hei ho above Dsun ka and at Kwang ting in gardens, *G. N. Potanin* (ex Maximowicz, l. c.).

DISTRIBUTION: also Hupeh and Szechuan.

The specimens collected by Potanin in Kansu and referred by Maximowicz to *Zanthoxylum Daniellii* hardly belong to *Evodia Daniellii*, but probably to either *E. hupehensis* or *E. Henryi* and more likely to the latter which we know extends in its variety *villicarpa* Rehd. & Wils. into western Szechuan.

*Phellodendron amurense* Ruprecht in Bull. Acad. Sci. St. Pétersb. xv. 526 (1857).—Franchet in Nouv.-Arch. Mus. Paris, sér. 2, v. 219 (Pl. David. I. 67) (1883).—Hemsley in Jour. Linn. Soc. xxiii. 108 (1886).—Sargent, Trees & Shrubs i. 197, t. 93 (1905).—Sprague in Kew Bull. Misc. Inform. 1920, 234 (1920).—Chung in Mem. Sci. Soc. China, i. 125 (Cat. Trees Shrubs China) (1924).

CHILI: near Jehol (ex Franchet, l. c.).—See also Hemsley, l. c., Sargent, l. c., and Chung, l. c.

DISTRIBUTION: also Manchuria and Korea.

*Poncirus trifoliata* Rafinesque, Sylv. Tell. 143 (1838).—Swingle in Sargent, Pl. Wilson. II. 149 (1914).—Bailey, Gent. Herb. i. 33 (1920).—*Hers*, Liste Ess. Lign. Honan Sept. 22 (1922).—Chung in Mem. Sci. Soc. China, i. 127 (Cat. Trees Shrubs China) (1924).

*Citrus trifoliata* Linnaeus, Spec. ed. 2, 1101 (1763).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 219 (Pl. David. i. 67 (1883); in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 205 (Cat. Pl. Tché-fou) (1884).—Bretschneider, Hist. Eur. Bot. Discov. China, 851 (1898).—Pritzelt in Bot. Jahrb. xxix. 424 (1900).—Loesener in Bot. Jahrb. xxxiv. beibl. lxxv. 47 (1904); in in Bot. Centralbl. Beih. xxxviii. pt. II. 147 (1919).

*Aegle sepiaria* De Candolle, Prodr. i. 538 (1824).—Maximowicz in Act. Hort. Petrop. xi. 95 (1890).

SHANTUNG: Cou san, *F. N. Meyer*, no. 294, August, 1907; Chifu cultivated and subspontaneous (ex Franchet, l. c. [1884]) and Kiauchou district, cultivated (ex Loesener, l. c.).—See also Chung, l. c.

HONAN: Chikung shan and Kio shan, planted and "as if native" (ex Bailey, l. c.).—See also *Hers*, l. c.



SHENSI: Tai pei shan, *W. Purdom*, no. 1148 in 1910.—See also Swingle, l. c., Chung, l. c., Franchet, l. c. (1883), Bretschneider, l. c., Pritzel, l. c., and Maximowicz, l. c.

DISTRIBUTION: also cultivated in other provinces of China and in Japan; Korea.

According to most authors this species occurs only cultivated or escaped and subspontaneous in China, but Swingle (l. c.) considers it indigenous in northern China. As in the case of many other commonly cultivated plants it is almost impossible to distinguish between naturalized and spontaneous plants. Bailey (l. c.) collected it in the hill country near Kioshan, Honan and makes the statement "as if native but perhaps introduced."

*Citrus Medica* Linnaeus, Spec. 782 (1753).—Maximowicz in Act. Hort. Petrop. xi. 95 (1890).—Swingle in Sargent, Pl. Wilson. ii. 95 (1914).

SHENSI: near Han tshun fu, cultivated, *P. J. Piasezki* (ex Maximowicz, l. c.).

DISTRIBUTION: southern China.

#### SIMAROUBACEAE

*Picrasma quassioides* Bennett, Pl. Jav. Rar. 198 (1844).—Hemsley in Jour. Linn. Soc. xxiii. 112 (1886).—Rehder & Wilson in Sargent, Pl. Wilson. ii. 152 (1916).—Hers in Jour. N. China Branch R. As. Soc. LIII. 113 (1922); Liste Ess. Lign. Honan Sept. 21 (1922).—Chung in Mem. Sci. Soc. China, i. 127 (Cat. Trees Shrubs China) (1924).

*Rhus ailanthoides* Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. ii. 89 (Enum. Pl. Chin. Bor. 15) (1833).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 470 (Ind. Fl. Pekin.) (1859).

*Picrasma ailanthoides* Planchon in Lond. Jour. Bot. v. 573 (1846).—Bretschneider, Hist. Eur. Bot. Discov. China, 330 (1898).—Pritzel in Bot. Jahrb. xxix. 425 (1900).—Loesener in Bot. Jahrb. xxxiv. beibl. lxxv. 47 (1904); in Bot. Centralbl. Beih. xxxvii. pt. ii. 147 (1919).

CHILI: Ying tau ho, *F. N. Meyer*, no. 1291, September 12, 1913; Siao Wu tai shan, alt. 900–1500 m., *J. Hers*, no. 2197, October 9, 1922.—See also Hemsley, l. c., Chung, l. c., Bunge, l. c., Maximowicz, l. c., and Bretschneider, l. c.

SHANTUNG: near Tsing tau, *R. Zimmermann*, no. 361, in 1901; Lau shan, *F. N. Meyer*, no. 312, August, 1906, Po shan, *F. N. Meyer*, no. 261, September, 1907; Chifu, *N. H. Cowdry*, no. 960, June 23, 1920.—See also Rehder & Wilson, l. c., Loesener, l. c., and Chung, l. c.

NORTHERN KIANGSU: Siao Hsien, Huang tsang yu, *J. Hers*, no. 1009, April 25, 1919; Liu lin shan, near Hai chow, *J. Hers*, no. 671, May 5, 1921; Hai chow hills, alt. 200 m., *Kang Fu Lai*, *Hers*, no. 2285, October 8, 1922.

HONAN: Teng feng hsien, Yu tai shan, alt. 800 m., *J. Hers*, no. 234, April 23, 1919; Yung ning, Tsi li ping, *J. Hers*, no. 440, May 22, 1919; Sung hsien, Shih tze miao, alt. 1200 m., *J. Hers*, nos. 582, 1252, and 1286,

May 26 and September 25, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, no. 1742, September 21, 1921.—See also Hers, l. c., and Chung, l. c.

SHANSI: Hai hsien, Huang lai kow, *J. Hers*, no. 1846, October 2, 1921.

SHENSI: Kinqa san and Lao y san, *G. Giraldi*, July and September, 1897; Ton sian fu, *Hugh Scallan* about 1898; northwest of Han chang hsien, Mou tan shan, *W. Purdom*, no. 362, in 1910; Lung chow, Sien fo shan, alt. 1000 m., *J. Hers*, no. 2325, July 2, 1922; Lung chow, Kuan shan, alt. 2000 m., *J. Hers*, no. 2354, July 3, 1924; Lung chow, Li kia po, alt. 1400 m., *J. Hers*, no. 2372, July 4, 1922.—See also Pritzel, l. c., Rehder & Wilson, l. c., and Chung, l. c.

DISTRIBUTION: throughout China; also Korea, Japan and southern Asia.

*Ailanthus altissima* Swingle in Jour. Wash. Acad. Sci. vi. 495 (1916).—Rehder & Wilson in Sargent, Pl. Wilson. iii. 449 (1917).—Bailey, Gent. Herb. i. 34 (1920).—Chung in Mem. Sci. Soc. China, i. 127 (Cat. Trees Shrubs China) (1924).

*Ailanthus glandulosa* Desfontaines in Mém. Acad. Sci. Paris, 1786, 265, t. 8.—Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. ii. 89 (Enum. Pl. Chin. Bor. 15) (1833).—Turczaninov in Bull. Soc. Nat. Moscou, x. pt. vii. 150 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 470 (Ind. Fl. Pekin.) (1859); Fl. Tangut. 107 (1889); in Act. Hort. Petrop. xi. 95 (1889).—Debeaux in Act. Soc. Linn. Bordeaux, xxxiii. 38 (Fl. Tien-tsin, 15) (1879).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 220 (Pl. David. i. 68) (1883); in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 206 (Cat. Pl. Tché-fou) (1884).—Hemsley in Jour. Linn. Soc. xxiii. 112 (1886).—Palibin in Act. Hort. Petrop. xiv. 113 (1895).—Bretschneider, Hist. Eur. Bot. Discov. China, 49, 51, 53, 126, 850 (1898).—Faber, Denkschr. Entwick. Kiautschou, 33 (1898).—Pritzel in Bot. Jahrb. xxix. 425 (1900).—Loesener in Bot. Jahrb. xxxiv. beibl. Lxxv. 47 (1904); in Bot. Centralbl. Beih. xxxvii. pt. ii. 147 (1919).—Hers in Jour. N. China Branch R. As. Soc. LIII. 106 (1922); Liste Ess. Lign. Honan Sept. 2 (1922).—Cowdry in Jour. N. China Branch R. As. Soc. LIII. 161 (Pl. Peitaiho) (1922).  
*Ailanthus cacodendron* Schinz & Tellung apud Thellung in Mém. Soc. Sci. Nat. Cherbourg, xxxviii. 637, 679, (Fl. Av. Montpellier) (1912).—Rehder & Wilson, in Sargent, Pl. Wilson. ii. 153 (1914).

CHILI: near Peking, *W. R. Carles*, no. 35, May 28, 1882 (Gray Herb.).—See also Bunge, l. c., Franchet, l. c. (1883), Chung, l. c., Turczaninov, l. c., Maximowicz, l. c., Debeaux, l. c., Hemsley, l. c., Palibin, l. c., Bretschneider, l. c., and Cowdry, l. c.

SHANTUNG: Tsing tau, *R. Zimmermann*, no. 374, in 1901.—See also Chung, l. c., Franchet, l. c. (1884), Hemsley, l. c., Faber, l. c., Loesener, l. c., and Rehder & Wilson, l. c. (1914).

HONAN: Chi kung shan (ex Bailey, l. c.).—See also Chung, l. c., and Hers, l. c.

SHENSI: Kan y san, *G. Giraldi*, June 11–12, 1897 (mixed with *Cedrela sinensis*).—See also Pritzel, l. c.

KANSU: near Lid sha pu on the river Pei shiu, *G. N. Potanin* (ex Maximowicz, l. c. [1889]).

DISTRIBUTION: throughout China; southern Manchuria.

*Ailanthus Giralddii* Dode in Bull. Soc. Dendr. France, 1907, 191, fig.

SHENSI: without precise locality or collector (ex Dode, l. c.).

Dode's description is apparently based partly on a specimen collected by Farges in eastern Szechuan and on cultivated plants. A plant received as *A. Giralddii* from France and growing in this Arboretum agrees in some respects with Dode's description, but the only specimen from Shensi I have seen does not differ from *A. altissima* under which it is cited above. With the incomplete material at hand I am unable to form any opinion whether *A. Giralddii* is specifically distinct from *A. altissima*.

#### MELIACEAE

*Cedrela sinensis* A. L. de Jussieu in Mém. Mus. Nat. Hist. Paris, XIX. 255, 294 (1830).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 469 (Ind. Fl. Pekin.) (1859).—David, Jour. Trois. Voy. Emp. Chin. I. 154 (1875).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 220 (Pl. David. I. 68) (1883), sub *C. chinensis*.—Hemsley in Jour. Linn. Soc. XXIII. 114 (1886).—Bretschneider, Hist. Eur. Bot. Discov. China, 51, 53, 829, 850 (1898).—Hers in Jour. N. China Branch R. As. Soc. LIII. 108 (1922); Liste Ess. Lign. Honan Sept. 6 (1922).—Chung in Mem. Sci. Soc. China, I. 128 (Cat. Trees Shrubs China) (1924).

*Toona sinensis* Roemer, Fam. Nat. Syn. I. 139 (1846).—Pritzel in Bot. Jahrb. XXXVI. beibl. LXXXII. 71 (1905).

CHILI: Peking, *C. A. Skatschkoff*, about 1850 (Gray Herb.); near San tung ying, *F. N. Meyer*, no. 964, May 29, 1913.—See also Maximowicz, l. c., Franchet, l. c., Hemsley, l. c., Bretschneider, l. c., and Chung, l. c.

HONAN: cultivated (ex Hers, l. c.).

SHENSI: Kan y san, *G. Giralddi*, June 11–12, 1897.—See also David, l. c., Bretschneider, l. c. 850, and Pritzel, l. c.

KANSU: "beyond the Great Wall, *Piasezki* ex Maximowicz" (ex Hemsley, l. c.).

DISTRIBUTION: throughout China; southern Manchuria.

*Melia Azedarach* Linnaeus, Spec. I. 384 (1753).—David, Jour. Trois. Voy. Emp. Chin. I. 65 (1875).—Hemsley in Jour. Linn. Soc. XXIII. 113 (1886).—Bretschneider, Hist. Eur. Bot. Discov. China, 849 (1898).—Faber in Denkschr. Entwickl. Kiautschou, 33 (1898).—Pritzel in Bot. Jahrb. XXIX. 426 (1900).—Loesener in Bot. Jahrb. XXXIV. beibl. LXXV. 47 (1904); in Bot. Centralbl. Beih. XXXVII. pt. II. 148 (1904).—Rehder & Wilson in Sargent, Pl. Wilson. II. 157 (1914).—Hers in Jour. N. China Branch R. As. Soc. LIII. 112 (1922); Liste Ess. Lign. Honan Sept. 19 (1922).—Chung in Mem. Sci. Soc. China, I. 128 (Cat. Trees Shrubs China) (1924).

*Melia japonica* G. Don, Gen. Syst. I. 680 (1831).—Maximowicz in Act. Hort. Petrop. XI. 96 (1890).

HONAN: near Feng lo cheng (ex David, l. c.).—See also Bretschneider, l. c., and Hers, l. c.



SHANTUNG: Kiauchou district (ex Faber, l. c., and Loesener, l. c.).—See also Chung, l. c.

SHENSI: Lao y san, *Hugh Scallan*, about 1897; Han cheng hsien, *W. Purdom*, no. 321, in 1910.—See also Hemsley, l. c., Pritzel, l. c., Rehder & Wilson, l. c., Chung, l. c., and Maximowicz, l. c.

DISTRIBUTION: throughout China; Korea, Japan, India; much planted and frequently naturalized in all subtropical countries.

#### POLYGALACEAE

*Polygala sibirica* Linnaeus, Spec. 702 (1753). This plant which has been reported from Chili, Shantung and Honan and is widely distributed throughout eastern Asia from Siberia to India, can scarcely be considered woody or suffruticose, though it has been included in some lists of ligneous plants.

#### EUPHORBIACEAE

*Andrachne chinensis* Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 133 (Enum. Pl. Chin. Bor. 59) (1853).—Turczaninov in Bull. Soc. Nat. Moscou, x. pt. VII. 157 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 477 (Ind. Fl. Pekin.) (1859).—Mueller Arg. in De Candolle, Prodr. xv. pt. II. 234 (1866).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, VII. 75 (Pl. David. I. 265) (1884).—Hemsley in Jour. Linn. Soc. XXVI. (1894).—Pax & K. Hoffmann in Engler, Pflanzenr. IV.—147, XV. 171 (1922).—Chung in Mem. Sci. Soc. China, I. 130 (Cat. Trees Shrubs China) (1924).

*Andrachne capillipes* Hutchinson in Sargent, Pl. Wilson. II. 516 (1916).—Chung in Mem. Sci. Soc. China, I. 130 (Cat. Trees Shrubs China) (1924).

CHILI: near Peking *F. N. Meyer*, no. 391, May, 1907; hills near Peking, *S. W. Williams*, August, 1865, Herb. Hance 11449 (Gray Herb.); near San tun ying, *F. N. Meyer*, nos. 979, 988, June 1 and 2, 1913; western hills near Peking, *W. R. Carles*, no. 184, July, 1882 (Gray Herb.), *W. Purdom*, no. 1079, April 30, 1912, *J. Hers*, no. 1612, August 21, 1921; Po hua shan, *J. Hers*, nos. 1457, 1667, July 1 and September 9, 1921; Siao Wu tai shan, *J. Hers*, no. 1468, July 14, 1921; Men tow kow, side of artificial water way, *N. H. Cowdry*, no. 484, June 8, 1920; Kalgan, mountain sides, *N. H. Cowdry*, no. 1401, June 4, 1921.—See also Bunge, l. c., Turczaninov, l. c., Maximowicz, l. c., Mueller Arg., l. c., Franchet, l. c., Hemsley, l. c., Pax & K. Hoffmann, l. c., and Chung, l. c.

SHANTUNG: near Tsing-tau, *F. N. Meyer*, no. 243, September, 1907.—See also Pax & K. Hoffmann, l. c.

HONAN: Sia shih, *J. Hers*, no. 347, May 25, 1921; Tsi yuan hsien, alt. 500 m., *J. Hers*, no. 2657, August 22, 1923.

SHENSI: Tai pei shan, *W. Purdom*, nos. 881 and 881a, in 1910.—See also Pax & K. Hoffmann, l. c., and Chung, l. c.

DISTRIBUTION: also central and western China.

*Purdom's* no. 881a is perfectly glabrous, but in no. 881 the under side

of the young leaves is thinly covered with short curled hairs which later partly disappear. The latter plant approaches *A. capillipes* var. *pubescens* Hutchinson (l. c.) which has, however, a denser pubescence of longer hairs. Also Hers no. 2657 from Honan is slightly pubescent on the under side of the leaves and on the sepals and is very similar to Hers no. 2572 enumerated under *A. hirsuta*, but it has a perfectly glabrous ovary.

*Andrachne hirsuta* Hutchinson in Sargent, Pl. Wilson. II. 516 (1916).—Hers in Jour. N. China Branch R. As. Soc. LIII. 107 (1922); Liste Ess. Lign. Honan Sept. 3 (1922).—Chung in Mem. Sci. Soc. China, I. 130 (Cat. Trees Shrubs China) (1924).

*Andrachne capillipes* Hers in Jour. N. China Branch R. As. Soc. LIII. 107 (1922); Liste Ess. Lign. Honan, Sept. 3 (1922).—Non Hutchinson.

HONAN: Mien chih, alt. 800 m., *J. Hers*, no. 66, August 20, 1919; Teng feng hsien Yu tai shan, alt. 800 m., *J. Hers*, no. 250, April 23, 1919; from a shrub obtained on the Yu tai shan, *J. Hers*, no. 310, April 20, 1920; Chengchow nursery, from Sung shan, *J. Hers*, no. 335, May 1, 1913; Chengchow, introduced from the hills, *J. Hers*, no. 2572, August 2, 1923.

Hers' nos. 66, 335 and 2572 represent apparently a glabrescent form of *A. hirsuta*; the branchlets are glabrescent (villose in no. 335) and the leaves are generally ovate and obtuse and only slightly pubescent on the under side, but the sepals are suborbicular and slightly pubescent outside and the ovary and fruit are sparingly appressed-pilose as in *A. hirsuta*; in no. 2572, however, the pubescence of the ovary is very slight and the plant is scarcely distinguishable from no. 2657 enumerated under *A. chinensis*.

*Securinega ramiflora* Mueller Arg. in De Candolle, Prodr. xv. pt. II. 449 (1866).—Hemsley in Jour. Linn. Soc. XXVI. 426 (1894).—Loesener in Bot. Centralbl. Beih. XXXVII. pt. II. 148 (1919).—Chung in Mem. Sci. Soc. China, I. 130 (Cat. Trees Shrubs China) (1924).

*Phyllanthus ramiflorus* Persoon, Syn. II. 591 (1807).—Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 123 (Enum. Pl. Chin. Bor. 59) (1833).

*Geblera suffruticosa* Fischer & Meyer in Ind. Sem. Hort. Petrop. 1835, 28.—Turezaninov in Bull. Soc. Nat. Msocou, x. pt. VII. 157 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 477 (Ind. Fl. Pekin) (1859).

*Flueggea suffruticosa* Baillon, Etude Gén. Euphorb. 592 (1858).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, VII. 76 (Pl. David. I. 266) (1884); in Mém. Soc. Sci. Nat. Cherbourg, XXIV. 252 (Cat. Pl. Tché-fou) (1884).

*Securinega flueggeoides* Mueller Arg. in De Candolle, Prodr. xv. pt. II. 499 (1866).—Bailey, Gent. Herb. I. 34 (1920).—Cowdry in Jour. N. China Branch R. As. Soc. LIII. 173 (1922).—Chung in Mem. Sci. Soc. China, I. 130 (Cat. Trees Shrubs China) (1924).

CHILI: near Peking, *O. Warburg*, no. 6357; near Weichang, *W. Purdom*, nos. 111 and 880 in 1909; Nan kow pass, *J. Hers*, no. 1606, August 15, 1921; Ming Tombs, *J. Hers*, no. 1594, August 14, 1921; Siao Wu tai shan, *J. Hers*, no. 1524, July 14, 1921; Siao Wu tai shan, Shui Shih tao and southeastern valley, alt. 900–1500 m., *J. Hers*, nos. 2167 and

2199, October 8 and 9, 1922.—See also Mueller Arg., l. c., Hemsley, l. c., Chung, l. c., Bunge, l. c., Turczaninov, l. c., Maximowicz, l. c., Franchet, l. c. (Pl. David.), and Cowdry, l. c.

SHANTUNG: near Black Dragon temple, Chifu, *N. H. Cowdry*, no. 595, July 19, 1920.—See also Hemsley, l. c., Loesener, l. c., Chung, l. c., and Franchet, l. c. (Cat. Pl. Tché-fou).

HONAN: near Kio shan and on Chi kung shan (ex Bailey, l. c.).

KANSU: Ho lan shan mountains, alt. 1375–2400 m., *R. C. Ching*, no. 193, May 10–25, 1923.

DISTRIBUTION: also Kiangsu, Kiangsi, Hupeh, Korea, Japan.

*Phyllanthus simplex* Retzius, *Observ. Bot.* V. 29 (1789).—Mueller Arg. in *De Candolle, Prodr.* xv. pt. II. 391 (1866).—Hemsley in *Jour. Linn. Soc.* xxvi. 423 (1894).—Faber in *Denkschr. Entw. Kiautschou*, 33 (1898).—Loesener in *Bot. Jahrb.* xxxiv. beibl. LXXV. 48 (1904); in *Bot. Centr. Beih.* xxxvii. pt. II. 148 (1919).—Chung in *Mem. Sci. Soc. China*, I. 131 (Cat. Trees Shrubs China) (1924).

*Phyllanthus ussuriensis* Ruprecht mss. apud Regel in *Bull. Phys.-Math. Acad. Sci. St. Pétersb.* xv. 222 (Maximowicz & Regel, *Veget. Skizz. Amurl.*) (1857); in *Mél. Biol.* II. 490 (1857).—Franchet in *Mém. Soc. Sci. Nat. Cherbourg*, xxiv. 251 (Cat. Pl. Tché-fou) (1884).

CHILI: near Peking (ex Hemsley, l. c.).—See also Chung, l. c.

SHANTUNG: near Chifu (ex Hemsley, l. c., and Franchet, l. c.) and near Tsing tau (ex Loesener, l. c.).—See also Faber, l. c., and Chung, l. c.

DISTRIBUTION: also Kiangsu, Kiangsi, Hupeh, Kwangtung; Manchuria, Mongolia, Japan, southern Asia, Malaysia and Polynesia.

According to the material I have seen this species can hardly be called woody, the stems seem to be lignescent only at their base.

*Glochidion puberum* Hutchinson in *Sargent, Pl. Wilson.* II. 518 (1916).

*Glochidion obscurum* Hemsley in *Jour. Linn. Soc.* xxvi. 425 (1894).—Non Blume.

? *Glochidion* sp. Faber in *Denkschr. Entw. Kiautschou*, 33 (1898).—Loesener in *Bot. Jahrb.* xxxiv. beibl. LXXV. 148 (1904).

SHANTUNG: without locality (ex Faber, l. c., and Loesener, l. c.);

NORTHERN KIANGSU: Suchow fu, Huang tsang yu, *J. Hers*, nos. 2465 and 2806, October 3, 1922 and October 15, 1923.

DISTRIBUTION: also Chekiang, Kiangsi, Fokien, Kwangtung, Hupeh.

The *Glochidion* recorded from Shantung by Faber, if the record is correct, is probably *G. puberum* as this species extends to northern Kiangsu which is farther north than any other species of the genus.

*Mallotus apelta* Mueller Arg. in *De Candolle, Prodr.* xv. pt. II. 963 (1866).—Bailey, *Gent. Herb.* I. 34 (1920).

HONAN: Chi kung shan (ex Bailey, l. c.).

DISTRIBUTION: eastern and central China.

*Alchornea Davidi* Franchet in *Nouv. Arch. Mus. Paris, sér. 2*, VII. 74, t. 6 (Pl. David. I. 264) (1884).—Hers in *Jour. N. China Branch R.*



As. Soc. LIII. 106 (1922); Liste Ess. Lign. Honan Sept. 3 (1922).—Chung in Mem. Sci. Soc. China, I. 134 (Cat. Trees Shrubs China) (1924).

HONAN: Teng feng hsien, Yu tai shan, alt. 800 m., *J. Hers*, no. 235, April 13, 1919; Tsi yuan hsien, alt. 500 m., *J. Hers*, no. 2647, August 22, 1923.—See also Hers, l. c.

SHENSI: southern Shensi, on hills (ex David, l. c.).

DISTRIBUTION: also Chekiang and Hupeh.

*Alchornea rufescens* Franchet in Nouv. Arch. Mus. Paris, sér. 2, VII. 75, t. 7 (Pl. David. I. 265) (1884).—Chung in Mem. Sci. Soc. China I. 134 (Cat. Trees Shrubs China) (1924).

*Alchornea Giraldui* Pax in Bot. Jahrb. XXIX. 429 (1900).

SHENSI: several localities (ex David, l. c., and Pax, l. c.).

DISTRIBUTION: also Hupeh, Szechuan, Fukien, Kwangtung.

*Sapium japonicum* Pax & K. Hoffmann in Engler, Pflanzenr. IV.—147, v. 252 (1912).—Loesener in Bot. Centralbl. Beih. XXXVII. pt. II. 148 (1919).—Chung in Mem. Sci. Soc. China, I. 135 (Cat. Trees Shrubs China) (1924).

*Excoecaria japonica* Mueller Arg. in Linnaea, XXXII. 123 (1863).—Loesener in Bot. Jahrb. XXXIV. beibl. LXXV. 48 (1904).

SHANTUNG: Lau shan, *F. N. Meyer*, nos. 283, 297, 323, August, 1907; Tai ching kung, planted in temple grounds, *R. Zimmermann*, no. 634, in 1901.—See also Pax & K. Hoffmann, l. c., Loesener, l. c., and Chung, l. c.

DISTRIBUTION: eastern and central China; Korea, Japan.

*Sapium sebiferum* Roxburgh, Fl. Ind. ed. 2, III. 693 (1892).—Faber in Denkschr. Entwickl. Kiautschou, 33 (1898).—Pax in Bot. Jahrb. XXIX. 430 (1900).—Loesener in Bot. Jahrb. XXXIV. beibl. LXXV. 48 (1904); in Bot. Centralbl. Beih. XXXVII. pt. II. 148 (1919).—Pax & K. Hoffmann in Engler, Pflanzenr. IV.—147, v. 237 (1912).—Bailey, Gent. Herb. I. 34 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 115 (1922); Liste Ess Lign. Honan Sept. 28 (1922).—Chung in Mem. Sci. Soc. China, I. 136 (Cat. Trees Shrubs China) (1924).

SHANTUNG: without precise locality (ex Faber, l. c., and Loesener, l. c. [1904]); Tsingtau, planted (ex Loesener, l. c. [1919]).—See also Chung, l. c.

NORTHERN KIANGSU: Suchow fu, Huang tsang yu, alt. 200 m. *J. Hers*, no. 2464, October 3, 1922.

HONAN: Teng feng, Yu tai shan, *J. Hers*, no. 304, June 17, 1919.—See also Bailey, l. c., Hers, l. c., and Chung, l. c.

SHENSI: Lean shan, *G. Giraldui* (ex Pax, l. c., and Pax & K. Hoffmann, l. c.).

DISTRIBUTION: eastern and central China; southern Asia; cultivated and often naturalized in tropical and subtropical countries.

## BUXACEAE

*Buxus microphylla* Sieb. & Zucc. var. *sinica* Rehder & Wilson in Sargent, Pl. Wilson, II. 165 (1914).—Hers in Jour. N. China Branch R. As. Soc. LIII. 107 (1922); Liste Ess. Lign. Honan Sept. 5 (1922).—Chung in Mem. Sci. Soc. China, I. 137 (Cat. Trees Shrubs China) (1924).

*Buxus sempervirens* Hemsley in Jour. Linn. Soc. xxvi. 418 (1894), pro parte.—Diels in Bot. Jahrb. xxix. 431 (1900).—Loesener in Bot. Jahrb. xxxiv. beibl. LXXV. 49 (1904); in Bot. Centralbl. Beih. xxxvii. pt. II. 150 (1919).—Non Linnaeus.

SHANTUNG: Cape Ya tau, near Tai ching kung, *R. Zimmermann*, no. 529 in 1901.—See also Rehder & Wilson, l. c., and Loesener, l. c.

HONAN: Siao hsien, Huang tsang yu, cultivated, *J. Hers*, no. 1028, May 26, 1919.—See also Hers, l. c.

SHENSI: Tai pei shan, *W. Purdom*, nos. 1149 and 1150, in 1910; without precise locality, *W. Purdom*, no. 1151, in 1910.—See also Rehder & Wilson, l. c., Chung, l. c., and Diels, l. c.

KANSU: mountains near Siku, *F. N. Meyer*, no. 2009, November 17, 1914.—See also Chung, l. c.

DISTRIBUTION: also Kiangsu, Chekiang, Kiangsi, Hupeh, Yunnan; Formosa.

## CORIARIACEAE

*Coriaria sinica* Maximowicz in Mém. Acad. Sci. St. Pétersb. xxix. no. III. 9, fig. (p. 13) (1881); in Act. Hort. Petrop. xi. 112 (1889).—Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Inv. Seeds Pl. Imp. XLIII. 69, no. 40706 (1918).—Chung in Mem. Sci. Soc. China, I. 137 (Cat. Trees Shrubs China) (1924).

*Coriaria nepalensis* Hemsley in Jour. Linn. Soc. xxiii. 149 (1886).—Diels in Bot. Jahrb. xxix. 431 (1900).—Non Wallich.

SHENSI: several localities, *P. J. Piasezki* (ex Maximowicz, l. c.).—See also Hemsley, l. c., and Chung, l. c.

KANSU: Yin kwan dien, *F. N. Meyer*, no. 1739, September 23, 1914; Yang dja dien, *F. N. Meyer*, no. 1944, September 23, 1914; Yan pu ko, *F. N. Meyer*, no. 1961, October 6, 1914, (all in Herb. U. S. Dept. Agric.).—See also Hemsley, l. c., Meyer, l. c., and Chung, l. c.

DISTRIBUTION: also Hupeh, Szechuan, Yunnan.

## ANACARDIACEAE

*Pistacia chinensis* Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 89 (Enum. Pl. Chin. Bor. 15) (1833).—Turczaninov in Bull. Soc. Nat. Moscou, x. pt. VII. 150 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 470 (Ind. Fl. Pekin.) (1859); in Act. Hort. Petrop. xi. 110 (1889).—Engler in De Candolle, Monog. Phaner. iv. 291 (1883).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 231 (Pl. David. I. 79) (1883); in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 208 (1884).—Hemsley in Jour. Linn. Soc. xxiii. 148 (1886).—Bretschneider,

Hist. Eur. Bot. Discov. China, 331, 849 (1898), as *sinensis*.—Faber in Denkschr. Entwick. Kiautschou, 33 (1898).—Diels in Bot. Jahrb. xxxix. 431 (1900); xxxvi. beibl. lxxxii. 71 (1905).—Rehder & Wilson in Sargent, Pl. Wilson. II. 173 (1914).—Meyer in U. S. Dept. of Agric. Bur. Pl. Indust. Inv. Seeds Pl. Imp. XLIII. 62, no. 40662 (1918).—Loesener in Bot. Centralbl. Beih. xxxvii. pt. II. 150 (1919).—Bailey, Gent. Herb. I. 34 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 113 (1922); Liste Ess. Lign. Honan Sept. 21 (1922).—Chung in Mem. Sci. Soc. China, I. 138 (Cat. Trees Shrubs China) (1924).

CHILI: Peking, *A. Bunge* (Gray Herb.); *F. N. Meyer*, no. 181, October, 1905; Po hua shan, *J. Hers*, no. 1388, May 1, 1921; without precise locality, *Père Chanet*, no. 77 in 1919.—See also Bunge, l. c., Turczaninov, l. c., Maximowicz, l. c. (1859), Engler, l. c., Franchet, l. c. (1883), Hemsley, l. c., Bretschneider, l. c. 331, Rehder, & Wilson, l. c., and Chung, l. c.

SHANTUNG: graveyard east of Chifu, *N. H. Cowdry*, no. 575, July 5, 1920.—See also Franchet, l. c. (1884), Hemsley, l. c., Faber, l. c., Rehder & Wilson, l. c., Loesener, l. c., (1919) and Chung, l. c.

NORTHERN KIANGSU: Hai chow hills, alt. 200 m., *Kang Fu Lai*, Hers, no. 2296, October, 8, 1922.

HONAN: Ho dien, *F. N. Meyer*, no. 1856, July 4, 1914; (Herb. U. S. Dept. Agric.); Kio shan, *L. H. Bailey*, in 1917.—See also David, l. c., Bretschneider, l. c., 849, Bailey, l. c., Hers, l. c., and Chung, l. c.

SHENSI: Lean san, *Hugh Scallan*; Tai pei shan, *W. Purdom*, no. 1152, in 1910; Kwan yin tang, *F. N. Meyer*, no. 1735, September 15, 1914 (Herb. U. S. Dept. Agric.); Lung chow, Sien fo shan, alt. 1000 m., *J. Hers*, no. 2330, July 2, 1922.—See also Maximowicz, l. c. (1889), Engler, l. c., Hemsley, l. c., Diels, l. c., Rehder & Wilson, l. c., Meyer, l. c., and Chung, l. c.

KANSU: Yu yin chen, *F. N. Meyer*, no. 1684, September 25, 1914 (Herb. U. S. Dept. Agric.);

DISTRIBUTION: throughout China, also Formosa and Philippine Islands.

*Pistacia chinensis* forma *latifoliolata* Loesener in Bot. Jahrb. xxxiv. beibl. lxxv. 49 (1904); in Bot. Centralbl. Beih. xxxvii. pt. II. 49 (1919).

SHANTUNG: Lau shan, *F. N. Meyer*, no. 315, August, 1907.—See also Loesener, l. c.

*Cotinus coggygia* Scop. var. *pubescens* Engler in Bot. Jahrb. I. 403 (1881); in De Candolle, Monog. Phaner. IV. 350 (1883).—Rehder & Wilson in Sargent, Pl. Wilson. II. 175 (1914).—Hers in Jour. N. China Branch R. As. Soc. LIII. 109 (1922); Liste Ess. Lign. Honan Sept. 9 (1922).—Chung in Mem. Sci. Soc. China, I. 138 (Cat. Trees Shrubs China) (1924).

*Rhus Cotinus* Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 89 (Enum. Pl. China. Bor. 15) (1833).—Turczaninov in Bull. Soc. Nat. Moscou, x.



pt. vii. 150 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 470 (Ind. Fl. Pekin.) (1859).—Hemsley in Jour. Linn. Soc. xxiii. 146 (1886), pro parte quoad specim. e Shensi.—Maximowicz in Act. Hort. Petrop. xi. 110 (1889).—Non Linnaeus.

*Cotinus coggygia* Diels in Bot. Jahrb. xxix. 432 (1900); xxxvi. beibl. lxxxii. 71 (1905).—Non Scopoli.

HOANAN: Yungning, Tsi li ping, *J. Hers*, no. 450, May 22, 1919; Tsi yuan hsien, Tientan shan, *J. Hers*, no. 1706, September 18, 1921.—See also *Hers*, l. c., and *Chung*, l. c.

SHANSI: Ping yang fu, *F. N. Meyer*, in 1711, July 25, 1914 (Herb. U. S. Dept. Agric.); Hia hsien, Huang lai kow, *J. Hers*, no. 1857, October 2, 1921.

SHENSI: Huo kia zaez, *G. Giralddi*, July 16, 1897; northwest of Han chang fu, *W. Purdom*, nos. 364, 1105, in 1910; Lung chow, Kuan shan, alt. 2000 m., *J. Hers*, no. 2341, July 3, 1922; Tsing ling, 60 kilom. south of Sian fu, alt. 1000–1500 m., *J. Hers*, no. 2948, October 20, 1924; Hua Shan, alt. 1000–1500 m., *J. Hers*, nos. 3061 and 3098, October 31, 1924.—See also Rehder & Wilson, l. c., Hemsley, l. c., Maximowicz, l. c., and *Chung*, l. c.

KANSU: Lidsha pu, *P. J. Piasezki* (ex Maximowicz, l. c.).

DISTRIBUTION: also Hupeh and Chekiang; southeastern Europe to central Asia.

The Chinese specimens vary greatly in the amount of pubescence; in some, as in the Shensi specimens the pubescence is reduced to the axils of the veins or along the lower part of the midrib; these specimens might possibly be called as well typical *R. coggygia* (var. *laevis* Engl. l. c.), while others, as Wilson's no. 87 from Hupeh, approach var. *cinerea* Engl.

*Cotinus coggygia* var. *cinerea* Engler in Bot. Jahrb. i. 403 (1881); in De Candolle, Monog. Phaner. iv. 351 (1883).—Rehder & Wilson in Sargent, Pl. Wilson. ii. 176 (1914).—Limpricht, Bot. Reis. Hochgeb. Chin. Ost.-Tib. 434 (1922).—*Chung* in Mem. Sci. Soc. China, i. 138 (Cat. Trees Shrubs China) (1924).

*Rhus Cotinus* Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. ii. 89 (Enum. Pl. Chin. Bor. 15) (1833).—Turczaninov in Bull. Soc. Nat. Moscou, x. pt. vii. 150 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 470 (Ind. Fl. Pekin.) (1859).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 230 (Pl. David. i. 78) (1883).—Hemsley in Jour. Linn. Soc. xxiii. 146 (1886), pro parte, quoad specim. e Chili.—Non Linnaeus.

*Rhus* sp. Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Seeds Pl. Imp. Inv. xiv. 46, no. 22, 346 (1909).

CHILI: near Peking, *S. W. Williams*, Herb. Hance no. 12008, August, 1865 (Gray Herb.), *F. N. Meyer*, no. 389, May, 1907; Ying tau ko, *F. N. Meyer*, no. 1017, September 12, 1913; western hills near Peking, *J. Hers*, no. 1395, May 15, 1921; Po hua shan, *J. Hers*, no. 1408, May 1, 1921; Siao Wu tai shan, *J. Hers*, no. 1485, July 14, 1921; Trappish Monastery, *N. H. Cowdry*, no. 1672, July 16, 1921.—See also Engler, l. c. (1888), Rehder & Wilson, l. c., Limpricht, l. c., *Chung*, l. c., Bunge, l. c., Turczaninov, l. c., Maximowicz, l. c., Franchet, l. c., Hemsley, l. c., and Meyer, l. c.

SHANTUNG: near Tsing tau, *F. N. Meyer*, no. 255, September, 1907.—See also Rehder & Wilson, l. c., and Chung, l. c.

HONAN: Ho dien, *F. N. Meyer*, no. 1862, July 7, 1914.

DISTRIBUTION: also southeastern Europe.

*Rhus punjabensis* Stewart var. *sinica* Rehder & Wilson in Sargent, Pl. Wilson. II. 176 (1914).

*Rhus sinica* Diels in Bot. Jahrb. XXIX. 432 (1900).

SHENSI: Lu tun, *G. Giraldi*, no. 1271 (ex Diels, l. c.).

DISTRIBUTION: also Hupeh and Szechuan.

*Rhus Potanini* Maximowicz in Act. Hort. Petrop. XI. 110 (1889).—Bretschneider, Hist. Eur. Bot. Discov. China, 1027 (1898).—Diels in Bot. Jahrb. XXIX. 432 (1900); XXXVI. beibl. LXXXII. 71 (1905).—Rehder & Wilson in Sargent, Pl. Wilson. II. 177 (1914).—Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Inv. Seeds Pl. Imp. XLIII. 71, no. 40717 (1918).—Hers in Jour. N. China Branch R. As. Soc. LIII. 115 (1922); Liste Ess. Lign. Honan Sept. 26 (1922).—Chung in Mem. Sci. Soc. China, I. 177 (Cat. Trees Shrubs China) (1924).

HONAN: Yung ning, Tsi li ping, *J. Hers*, no. 433, May 22, 1919; Yung ning, Yo tze ping, alt. 1000 m., *J. Hers*, no. 834, October 5, 1919; Hwei hsien, Chung hu, *J. Hers*, no. 736, June 17, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, nos. 1723 and 1811, September 20 and 21, 1921.—See also Hers, l. c., and Chung, l. c.

SHENSI: "Monte Kin-quan-san," *G. Giraldi*, July 10, 1897; "Monte Qua-in-san," *G. Giraldi*, July 16, 1897; "Thui-kio-tsuen," *G. Giraldi*, September 25, 1897; Tai pei shan, *W. Purdom*, no. 1106, in 1910; Kwang yin tang, *F. N. Meyer*, nos. 1910, 1913, September 15, 1914; Niu pei shan, alt. 700 m., *J. Hers*, no. 2451, October 11, 1922; Tsing ling shan, 60 kilom. south of Sian fu, alt. 1000–1500 m., *J. Hers*, no. 2946, October 20, 1924.—See also Diels, l. c., Rehder & Wilson, l. c., and Chung, l. c.

KANSU: above Terga on the Hei ho, *G. N. Potanin* (ex Maximowicz, l. c.).—See also Bretschneider, l. c.

*Rhus javanica* Linnaeus, Spec. 265 (1753).—Rehder & Wilson in Sargent, Pl. Wilson. II. 178 (1914).—Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Inv. Seeds Pl. Imp. XLIII. 71, no. 40716 (1918).—Bailey, Gent. Herb. I. 34 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 115 (1922); Liste Ess. Lign. Honan Sept. 26 (1922).—Chung in Mem. Sci. Soc. China, I. 138 (Cat. Trees Shrubs China) (1924).

*Rhus chinensis* Osbeck, Dagb. Ostind. Resa, 232 (1757).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 470 (Ind. Fl. Pekin.) (1859).

*Rhus semialata* Murray in Comm. Soc. Goetting. VI. 27, t. 3 (1784).—Hemsley in Jour. Linn. Soc. XXIII. 146 (1886).—Faber in Denkschr. Entwick. Kiautschou, 33 (1898).—Diels in Bot. Jahrb. XXIX. 433 (1900).—Loesener in Bot. Jahrb. XXXIV. beibl. LXXV. 49 (1904).

*Rhus semialata* β. *Osbeckii* De Candolle, Prodr. II. 67 (1825).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 230 (Pl. David. I. 78) (1883); in Mém. Soc. Sci. Nat. Cherbourg, XXXIV. 208 (Cat. Pl. Tché-fou) (1884).—Loesener in Bot. Centralbl. Beih. XXXVII. pt. II. 150 (1919).

*Rhus semialata*  $\beta$ . *Roxburghii* Engler in De Candolle, Monog. Phaner. iv 381 (1883).—Non De Candolle.

CHILI: passes near Hsing ling Mts., *N. H. Cowdry*, no. 1684, July 19, 1921 (Herb. Cowdry).—See also Maximowicz, l. c., Hemsley, l. c., Franchet, l. c. (1883), Engler, l. c., and Chung, l. c.

SHANTUNG: Lau shan, *F. N. Meyer*, no. 286, August, 1907 (Herb. U. S. Dept. Agric.).—See also Franchet, l. c., Faber, l. c., Hemsley, l. c., Loesener, l. c., and Chung, l. c.

NORTHERN KIANGSU: Liu lin shan, near Hai chow, *J. Hers*, no. 640, May 5, 1921; Hai chow hills, alt. 200 m., *Kang Fu Lai*, Hers no. 2320, October 8, 1922.

SHANSI: Hia hsien, Huang lai kow, *J. Hers*, no. 1849, October 2, 1921.

HONAN: Sung hsien, San kuan miao, alt. 1200 m., *J. Hers*, no. 507, May 24, 1919; without precise locality, *J. Hers*, no. 10, in 1918.—See also Bailey, l. c., Hers, l. c., and Chung, l. c.

SHENSI: Miao wang san, *Hugh Scallan*, July, 1899; King lung shan, alt. 900 m., *J. Hers*, no. 2439, October 9, 1922; Hua shan, alt. 1000–1500 m., *J. Hers*, no. 3092, October, 31, 1924.—See also Rehder & Wilson, l. c., Chung, l. c., Hemsley, l. c., and Diels, l. c.

KANSU: near Yuyinchen, *F. N. Meyer*, no. 1955, September 25, 1914 (Herb. U. S. Dept. Agric.).

DISTRIBUTION: throughout China; Korea, Japan, Formosa, India.

*Rhus sylvestris* Siebold & Zuccarini in Abh. Akad. Muench. iv. pt. III. 140 (Fl. Jap. Fam. Nat. II. 32) (1846).—Diels in Bot. Jahrb. xxxvi. beibl. LXXXII. 71 (1905).

SHENSI: several localities, *G. Giraldi* (ex Diels, l. c.).

DISTRIBUTION: eastern and central China; Korea, Japan.

*Rhus verniciflua* Stokes, Bot. Mat. Med. II. 164 (1812).—Rehder & Wilson in Sargent, Pl. Wilson. II. 181 (1914).—Hers in Jour. N. China Branch R. As. Soc. LIII. 115 (1922); Liste Ess. Lign. Honan Sept. 26 (1922).—Chung in Mem. Sci. Soc. China, I. 139 (Cat. Trees-Shrubs China) (1924)

*Rhus vernicifera* De Candolle, Prodr. II. 68 (1825).—Hemsley in Jour. Linn. Soc. XXIII. 148 (1886).—Maximowicz in Act. Hort. Petrop. XI. 110 (1889).—Diels in Bot. Jahrb. XXIX. 433 (1900).—Loesener in Bot. Centralbl. Beih. XXXVII. pt. II. 150 (1919).

CHILI: without precise locality, *Père Chanut*, no. 67, in 1919.

SHANTUNG: Cape Ya tau (ex Loesener, l. c.).—See also Chung, l. c.

HONAN: without precise locality (ex Hers. l. c.).

SHENSI: Tai pei shan, *W. Purdom*, no. 1153, in 1910; Kwan yin tang, *F. N. Meyer*, no. 1909, September 15, 1914.—See also Rehder & Wilson, l. c., Chung, l. c., Maximowicz, l. c., and Diels, l. c.

DISTRIBUTION: also eastern to western China; India, cultivated in Korea and Japan.



*Rhus succedanea* Linnaeus, Mant. 221 (1771).—Franchet in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 208 (Cat. Pl. Tché-fou) (1884).

*Rhus succedanea a japonica* Engler in De Candolle, Monog. Phaner. iv. 399 (1883).

CHILI: Jehol, *A. David* (ex Engler, l. c.).

SHANTUNG: Chifu, *Fauvel* (ex Franchet, l. c.).

DISTRIBUTION: eastern to western China; Japan, India.

The occurrence of this species in Chili and Shantung is doubtful. Franchet in *Plantae Davidianae* mentions only a specimen from Kiangsi and Fauvel's specimen from Chifu may belong to the preceding species.

*Rhus* sp.

SHENSI: Fu niu shan, *J. Hers*, no. 166, October 6, 1918; Hua shan, alt. 1500 m., *J. Hers*, no. 3114, October 31, 1924.

The specimens are unfortunately sterile and cannot be referred to any Chinese species known to me, though they seem to be most nearly related to *R. punjabensis* var. *sinica*. The branchlets are slightly puberulous and yellowish; the leaves have a slender rhachis terete or only very narrowly winged between the upper pairs of leaflets; the latter are ovate to oblong-ovate, 3.5–8 cm. long, subsessile, with 1–5 teeth on each side or occasionally entire on one side and they are pubescent on both sides with short accumbent lustrous hairs denser beneath.

Probably not a *Rhus* at all in *Rhus* sp. Kanitz in Szechenyi, Keletasz. Utján. Tudom. Ered. II. 803 (Pl. Enum. 15) (1891); in Szechenyi, Wiss. Ergeb. Reise Ostas. II. 691 (1889). Only sterile branches collected in Kansu are present and are described "foliis fere semper 16-jugis . . . foliolis tenuibus . . . costis et nervis glabris . . . lanceolatis." I do not know any *Rhus* with as many leaflets and I suspect that the specimen may belong to *Ailanthus* or *Cedrela*.

#### AQUIFOLIACEAE

*Ilex yunnanensis* Franchet in Pl. Delavay. II. 128 (1899).—Loesener in Nov. Act. Leop.-Carol. LXXVIII. 131 (Monog. Aquifol.) (1901).

SHENSI: Tai pei shan, *W. Purdom*, no. 1114, in 1910.

DISTRIBUTION: also Hupeh, Szechuan, Yunnan.

*Ilex Pernyi* Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 221 (Pl. David. I. 69) (1883).—Oliver in Hooker's Icon. xvi. t. 1539 (1886).—Hemsley in Jour. Linn. Soc. xxiii. 117 (1886).—Maximowicz in Act. Hort. Petrop. xi. 96 (1889).—Loesener in Nov. Act. Leop.-Carol. LXXVIII. 278 (Monog. Aquifol.) (1901).—Farrer in Jour. Roy. Hort. Soc. xlii. 77 (1916).—Chung in Mem. Sci. Soc. China, I. 141 (Cat. Trees Shrubs China) (1924).

SHENSI: Tsin ling shan, *A. David* (ex Franchet, l. c.).—See also Oliver l. c., Hemsley, l. c., Loesener, l. c., and Chung, l. c.

KANSU: Hoi sian, *M. M. Beresowski* (ex Maximowicz, l. c.).—See also Farrer, l. c., and Chung, l. c.

DISTRIBUTION: also Hupeh, Kweichow, Szechuan, Yunnan.

### CELASTRACEAE

*Evonymus nana* Marschall Bieberstein, Fl. Taur.-Cauc. III. 160 (1819).—Maximowicz in Mém. Biol. XI. 195 (1881); in Bull. Acad. Sci. St. Pétersb. XXVII. 452 (1882); Fl. Tangut. 108 (1889).—Hemsley in Jour. Linn. Soc. XXIII. 120 (1886).—Loesener in Bot. Jahrb. XXX. 452 (1902).—Chung in Mem. Sci. Soc. China, I. 143 (Cat. Trees Shrubs China) (1924).

SHENSI: Hua juen shen, *G. Giraldis*, no. 1149 (ex Loesener, l. c.).

KANSU: on the Tetung river, alt. 2300 m. (ex Maximowicz, l. c.).

DISTRIBUTION: also Mongolia, Turkestan, Caucasus, Bessarabia.

*Evonymus alata* Regel, Tent. Fl. Ussur. 40, t. 7, fig. 124 (1861).—Franchet, in Mém. Soc. Sci. Nat. Cherbourg, XXIV. 206 (1884).—Loesener in Bot. Jahrb. XXIX. 444 (1900); in Bot. Centralbl. Beih. XXXVII. pt. II. 151 (1919).—Loesener & Rehder in Sargent, Pl. Wilson. I. 493 (1913).—Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Inv. Seeds Pl. Imp. XXXVIII. 63, no. 37479 (1917).—Bailey, Gent. Herb. I. 35 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 110 (1922); Liste Ess. Lign. Honan Sept. 12, (1922).—Chung in Mem. Sci. Soc. China, I. 142 (Cat. Trees Shrubs China) (1924).

*Evonymus thunbergiana* Blume, Bijdr. Fl. Ned. Ind. 1147 (1825).—Hance in Jour. Bot. XIII. 131 (1875).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 222 (Pl. David. I. 70) (1883).—Hemsley in Jour. Linn. Soc. XXIII. 121 (1886).—Maximowicz, Fl. Tangut. 109 (1889); in Act. Hort. Petrop. XI. 97 (1889).—Faber in Denkschr. Entwick. Kiautschou, 33 (1898).

*Evonymus alatus* var. *ciliato-dentatus* Franchet & Savatier, Enum. Pl. Jap. II. 312 (1879).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 222 (Pl. David. I. 70) (1883).

*Evonymus striata* Loesener in Bot. Jahrb. XXX. 444 (1902); XXXIV. beibl. LXXV. 49 (1904).

*Evonymus alata* var. *aperta* Hers in Jour. N. China Branch R. As. Soc. LIII. 110 (1912); Liste Ess. Lign. Honan Sept. 12 (1922).—Non Loesener.

CHILI: east of Weichang, *W. Purdom*, nos. 4, 1013, in 1909; Hsiao, Wu tai shan, *F. N. Meyer*, no. 1354, August 27, 1913.—See also Loesener & Rehder, l. c., Chung, l. c., Hance, l. c., Franchet, l. c. (1883), and Loesener, l. c. (1902).

SHANTUNG: Tsing tau, *R. Zimmermann*, no. 184; near Chifu, rocks in high hills, *N. H. Cowdry*, no. 566, July, 1920.—See also Franchet, l. c. (1884), Loesener, l. c. (1902, 1904, 1919), Loesener & Rehder, l. c., Chung, l. c., and Faber, l. c.

NORTHERN KIANGSU: Huang tsang yu, *J. Hers*, no. 1036, May 26, 1921; Hai chow hills, alt. 200 m., *Kang Fu Lai*, *Hers* no. 2281, October 8, 1922.

HONAN: Hwei hsien, Shansi border, *J. Hers*, no. 766, June 19, 1919; Tsi yuan hsien, alt. 500 m., *J. Hers*, no. 2650, August 22, 1923; Tsi

yuan hsien, Pei ting shan, alt. 1200 m., *J. Hers*, no. 2803, October 10, 1923; Cheng chow nursery, "common in Honan," *J. Hers*, no. 333, April 24, 1921.—See also Bailey, l. c., Hers, l. c., and Chung, l. c.

SHANSI: near Kiu hsiang, *F. N. Meyer*, no. 1884, July 23, 1914.

SHENSI: "Huo-kio-zay," *G. Giraldi*, July 16, 1897; "Mte. Kin qua-san," *G. Giraldi*, July, 1897; "Thui-kio-tsuen," *G. Giraldi*, October 9, 1897; "Lao-y-san," *G. Giraldi*, without date; Tai pei shan, *W. Purdom*, nos. 9 and 14, in 1910; Yen-an fu, *W. Purdom*, no. 342, in 1910; north-west of Han chung hsien, *W. Purdom*, no. 375, in 1910; Sze wu hsien, *F. N. Meyer*, no. 1723, September 1, 1914; Lung chow, Li kia po, alt. 1400 m., *J. Hers*, no. 2376, July 4, 1922; Hua shan, alt. 500–1000 m., *J. Hers*, no. 3039, October 31, 1924; Tsing ling shan, 60 kilom. south of Sian fu, alt. 1000–1500 m., *J. Hers*, nos. 2934 and 2981, October 20, 1924.—See also Loesener, l. c. (1900 and 1902), Loesener & Rehder, l. c., Meyer, l. c., and Chung, l. c.

KANSU: several localities (ex Maximowicz, l. c.).

DISTRIBUTION: also Kiangsu, Chekiang, Hupeh, Manchuria, Korea and Japan.

The ciliate serration upon which Franchet & Savatier based their var. *ciliato-dentata* is most strikingly developed in Cowdry's no. 566 from Shantung, but also some other specimens as Meyer's no. 1354 and Purdom's nos. 4 and 1013 from Chili, Meyer's no. 1884 from Shansi, Hers' nos. 1036 and 2281 from Kiangsu and his no. 2376 from Shensi have a more or less similar setose serration.

The form which lacks the broad corky wings so characteristic for typical *E. alata* has been distinguished as var. *aptera* Reg.<sup>1</sup> To this form belong the following of the specimens cited above: North Kiangsu; Hers, nos. 1036 and 2281—Honan; Hers, nos. 2650 and 2803—Shansi; Meyer, no. 1884—Shensi: Giraldi's specimens from Lao y san and Thui kio tsuen; Purdom, nos. 9, 14, 342 and 375; Hers, no. 2981.—Kansu, Hers, no. 2421.—There are all gradations from branches with wings up to 12 mm. wide to those with very narrow wings or only tubercles and to branches entirely devoid of any trace of corky substance; sometimes the wings are present only on vigorous vegetative shoots, while flowering branches are without wings.

*Evonymus alata* var. *pubescens* Maximowicz in Mél. Biol. xi. 197 (1881); in Bull. Acad. Sci. St. Pétersb. xxvii. 454 (1882).

*Evonymus alata* var. *pilosa* Loesener & Rehder in Sargent, Pl. Wilson. i. 494 (1913).

CHILI: Weichang, *W. Purdom*, no. 30, in 1909; Hsiao Wu tai shan, *F. N. Meyer*, no. 1354, August 27, 1913 (in part), *J. Hers*, nos. 1471 and 1489, July 14, 1921; Po hua shan *J. Hers*, no. 1453, July 1, 1921;

<sup>1</sup> *Evonymus alata* var. *aptera* Regel, Tent. Fl. Ussur. 41 (1861) "apterus."

*Evonymus subtriflora* Blume, Bijdr. Fl. Ned. Ind. 1147 (1825).

*Evonymus alata* var. *subtriflora* Franchet & Savatier, Enum. Pl. Jap. ii. 312 (1879).



Tung ling Mts., *N. H. Cowdry*, no. 1332, May 18, 1921.—See also Maximowicz, l. c., and Loesener & Rehder, l. c.

DISTRIBUTION: also Manchuria and Korea.

This variety seems to reach its western limit in Chili; the specimens cited above under *E. alata* from Shantung also show a slight trace of pubescence on the veins beneath, but hardly marked enough to be referred to this variety. Most of the specimens cited, except Hers' no. 1489 and Cowdry's no. 1332, have winged branches.

*Evonymus alata* var. *aperta* Loesener in Sargent, Pl. Wilson. i. 494 (1913).—Hers in Jour. N. China Branch R. As. Soc. LIII .110 (1922); Liste Ess. Lign. Honan Sept. 12 (1922).

SHANSI: Fang shan hsien, Nan yang shan, alt. 1500–2500 m., *J. Hers*, no. 2698, September 22, 1923.

KANSU: Yan pu ko, *F. N. Meyer*, no. 1783, October 6, 1914; near Liang tang, *F. N. Meyer*, no. 1948, September 24, 1914.

DISTRIBUTION: also Szechuan.

As this variety can only be recognized with certainty if ripe fruits are available, it is possible that some of the specimens without mature fruit cited under the type, belong here and I suspect that the variety replaces the type in Kansu and probably also occurs in Shensi. The variety does not occur in Feng tien, as stated by Chung (l. c.); the specimen on which he based the reference belongs to var. *pubescens* Maxim.

*Evonymus verrucosoides* Loesener in Bot. Jahrb. xxx. 462 (1902); xxxvi. beibl. LXXXII. 72 (1902).

HONAN: Lushih, Hiung eul shan, alt. 1400 m., *J. Hers*, nos. 899, 924, 939, 878, and 893, October 10, 1919; Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1146, September 21, 1919.

SHENSI: several localities, *G. Giraldi* (ex Loesener, l. c.).

KANSU: Hung si hsien, alt. 1400 m., *J. Hers*, no. 2421, August 21, 1922.

DISTRIBUTION: also Hupeh and Szechuan.

As the description of this species is based on flowering specimens and the specimens from Szechuan and Hupeh identified by its author which are before me are likewise in flower, I relied in the identification of the specimens cited above which are in fruit chiefly on the long filaments partly persisting in the fruit which is lobed to the base as in *E. alata*. The branches of the Hers' specimens like those of the Szechuan and Hupeh are not verrucose. The leaves of the Honan specimens are rather large, up to 8 cm. long, acuminate, and closely serrulate with the tip of the teeth strongly incurved; the carpels, of which usually 1–3 develop, are elongated, about 1 cm. long and narrowed toward the apex and often distinctly rostrate; the arillus is as long as the ellipsoid seeds but with an opening near the apex. The winterbuds are remarkably

large, the terminal one being about 6 mm. long. The specimens from Kansu may belong to var. *viridiflora* Loes. & Rehd.; the young fruits are greenish and the leaves and fruits smaller.

*Evonymus phellomana* Loesener in Bot. Jahrb. xxix. 444, t. 5, fig. D, E (1900); xxx. 463 (1902); xxxvi. beibl. lxxxii. 72 (1905).—Chung in Mem. Sci. Soc. China, i. 144 (Cat. Trees Shrubs China) (1924).

? *Evonymus europaea*  $\beta$  *Hamiltoniana* Maximowicz in Act. Hort. Petrop. xi. 97 (1889), quoad plantam ad fl. Lumbu collectam.

SHENSI: "Mt. Kian-san," *G. Giraldi*, August 4, 1897; Tai pei shan, *W. Purdom*, nos. 2, 10, 1012, 1043, in 1910.—See also Loesener, l. c., and Chung, l. c.

KANSU: Kar ching k'ou, near Old Tao chow, alt. 3100-3400 m., *R. C. Ching*, no. 833, August 26-31, 1923.—See also Maximowicz, l. c.

DISTRIBUTION: endemic.

Potanin's specimen from Lumbu river described by Maximowicz as with "ramis vetustioribus late suberoso-alatis" probably belongs here.

*Evonymus nanoides* Loesener & Rehder in Sargent, Pl. Wilson. i. 492 (1913).

KANSU: Kar ching k'ou, near Old Tao chow, alt. 3100-3400 m., *R. C. Ching*, no. 847, August 26-31, 1923; upper Kar Ching k'ou, alt. 3800-4300 m., *R. C. Ching*, no. 935, August 28-31, 1923; between Choni and Lanchow, alt. 2600-3000 m., *R. C. Ching*, no. 1039, September, 19-21, 1923.

DISTRIBUTION: also Szechuan.

The Kansu specimens agree well with the type except that the arillus is only about half as long as the seed as well in the immature as in the mature specimen.

I am inclined to refer to this species a specimen collected on the Wu tai shan, Chili, by F. N. Meyer, (no. 1353, August 27, 1913<sup>1</sup>), but it differs from the type in its broader leaves varying from linear-oblong to ovate-oblong or occasionally even elliptic or elliptic-obovate and in the arillus enclosing the seed except a very small opening at the apex, otherwise as in habit, in the quadrangular narrowly winged branches, the rather small thickish leaves and the very short-stalked fruit with only one or two valves fertile it agrees with the type.

*Evonymus Przewalskii* Maximowicz in Mém. Biol. xi. 194 (1881); in Bull. Acad. Sci. St. Pétersb. xxix. 451 (1882); in Fl. Tangut. 108 (1889); in Act. Hort. Petrop. xi. 97 (1889).—Hemsley in Jour. Linn. Soc. xxiii. 121 (1886).—Bretschneider, Hist. Eur. Bot. Discov. China, 974 (1898).—Loesener in Bot. Jahrb. xxx. 464 (1902).—Rehder in Sargent, Pl. Wilson. i. 492 (1913).—Chung in Mem. Sci. Soc. China, 144 (Cat. Trees Shrubs China) (1924).

<sup>1</sup> See also U. S. Dept. Agric. Bur. Pl. Indust. Inv. Seeds Pl. Imp. xxxvii. 32, no. 36569 (1916).

SHANSI: Wu chai hsien, Ta nan kow, alt. 2000-3000 m., *Tchuang Kieh*, Hers no. 2013, September 7, 1922.

KANSU: Min chow district, alt. 2800 m., *W. Purdom*, no. 1050, in 1910; near Ping fan, alt. 2350-2800 m., *R. C. Ching*, no. 574, July 12-20, 1923; vicinity of Choni, alt. 3100-3300 m., *R. C. Ching*, no. 962, September 715, 1923.—See also Maximowicz, l. c., Hemsley, l. c., Bretschneider, l. c., Loesener, l. c., Rehder, l. c., and Chung, l. c.

DISTRIBUTION: endemic.

***Evonymus pauciflora* Maxim var. *chinensis*, comb. nov.**

*Evonymus verrucosa* var. *chinensis* Maximowicz in Act. Hort. Petrop. xi. 96 (1889).—Loesener in Bot. Jahrb. xxx. 462 (1902); xxxvi. beibl. lxxxii. 72 (1905).—Chung in Mem. Sci. Soc. China, i. 145 (Cat. Trees Shrubs China) (1924).

SHENSI: "Tu-sce-tsuen," *G. Giraldu*, September 15, 1897; Lung chow, Kuan shan, alt. 2000 m., *J. Hers*, no. 2355, July 3, 1922; without locality, *W. Purdom*, no. 5.—See also Loesener, l. c., and Chung, l. c.

KANSU: between Mör ping and Wu ping, *G. N. Potanin* (ex Maximowicz, l. c.).

DISTRIBUTION: endemic.

Though Maximowicz reduced his *E. pauciflora* later to a variety of *E. verrucosa* Scop., and Loesener follows him, I prefer to consider it a distinct species. It differs from *E. verrucosa* chiefly in the pubescent generally larger, more finely serrulate and more distinctly acuminate leaves, shorter petioles, in the peduncles appearing in the axils of the middle or even the upper pairs of leaves, not the lowest or lower pairs, and in the central flower of the cyme being almost always lacking or if present borne on a pedicel much shorter than the lateral pedicels. Var. *chinensis* agrees with typical *E. pauciflora* in these characters, but differs chiefly in its usually 4-6-flowered inflorescence and stouter peduncles.

***Evonymus verrucosa* Scop. var. *tchefouensis* Debeaux in Act. Soc. Linn. Bordeaux, xxxi. 133 (Fl. Tché-Fou 38) (1876).—Franchet in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 206 (Cat. Pl. Tché-fou) (1884).—Loesener in Bot. Jahrb. xxx. 462 (1902).**

SHANTUNG: Chifu (ex Debeaux, l. c.).—See also Franchet, l. c., and Loesener, l. c.

This is a very doubtful plant and is certainly not closely related to *E. verrucosa*; judging from the description it may very well belong to *E. patens* Rehd. or *E. kiautschovica* Loes.

***Evonymus lanceifolia* Loesener in Bot. Jahrb. xxx. 462 (1902).—Hers in Jour. N. China Branch R. As. Soc. LIII. 110 (1922); Liste Ess. Lign. Honan Sept. 13, (1922).—Chung in Mem. Sci. Soc. China, i. 143 (Cat. Trees Shrubs China) (1924).**

HONAN: Hwei hsien, Shansi border, *J. Hers*, no. 722, June 19, 1919; Siao hsien, Huang tsang yu, alt. 200 m., *J. Hers*, no. 1004bis, May 26,



1919 (sterile); Tsi yuan hsien, Tien tan shan, *J. Hers*, nos. 1716 and 1884, September 20 and 21, 1921.—See also Hers, l. c., and Chung, l. c.

SHANSI: Hia hsien, Huang lai kow, *J. Hers*, no. 1868, October 2, 1921.

SHENSI: near Pai hsi pu, *F. N. Meyer*, no. 1935, September 18, 1914.

DISTRIBUTION: also Hupeh, Szechuan, Yunnan.

*Evonymus Maackii* Ruprecht in Bull. Phys.-Math. Acad. Sci. St. Pétersb. xv. 358 (1857).—Loesener in Bot. Centralbl. Beih. xxxvii. pt. II. 151 (1919).—Chung in Mem. Sci. Soc. China, I. 143 (Cat. Trees Shrubs China) (1924).

*Evonymus Hamiltoniana* Loesener in Bot. Jahrb. xxxvi. beibl. lxxxii. 72 (1905).

CHILI: Siao Wu tai shan, *J. Hers*, no. 1576, July 16, 1921 (sterile; doubtful).

SHANTUNG: Kiauchow district (ex Loesener, l. c. [1919]).—See also Chung, l. c.

? SHENSI: Tue lian pin, *G. Giraldi* (ex Loesener, l. c. [1905]).

DISTRIBUTION: also Manchuria, Korea.

Of this species I have seen no specimen from northern China except the sterile specimen from Chili cited above of which I am not sure if it belongs here. I doubt if the species occurs in Shensi and Giraldi's specimen cited by Loesener may belong either to *E. lanceifolia* Loes. or *E. yedoensis* var. *Koehneana* Loes.

*Evonymus yedoensis* Koehne var. *Koehneana* Loesener in Sargent, Pl. Wilson. I. 491 (1913).—Chung in Mem. Sci. Soc. China, I. 145 (Cat. Trees Shrubs China) (1924).

SHENSI: Tai pei shan, *W. Purdom*, no. 8, in 1910; Tsing ling, 60 kilom. south of Sianfu, alt. 1000–1500 m., *J. Hers*, no. 3014, October 20, 1924.—See also Loesener, l. c., and Chung, l. c.

DISTRIBUTION: also Hupeh and Szechuan.

*Evonymus Bungeana* Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 470 (Ind. Fl. Pekin.) (1859); in Mém. Biol. xi. 188 (1881); in Bull. Acad. Sci. St. Pétersb. xxvii. 448 (1882); Fl. Tangut. 109 (1889).—Hance in Jour. Linn. Soc. xiii. 77 (1873).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 221 (Pl. David. I. 69) (1883); in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 206 (1884).—Hemsley in Jour. Linn. Soc. xxiii. 118 (1886).—Bretschneider, Hist. Eur. Bot. Discov. China, 174, 330 (1898).—Loesener in Bot. Jahrb. xxx. 461 (1902); xxxvi. beibl. lxxxii. 72 (1905); in Bot. Centralbl. Beih. xxxvii. pt. II. 151 (1919).—Bailey, Gent. Herb. I. 35 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 110 (1922); Liste Ess. Lign. Honan Sept. 13 (1922).—Cowdry in Jour. N. China Branch R. As. Soc. LIII. 161 (Pl. Peitaiho) (1922).—Chung in Mem. Sci. Soc. China, I. 142 (Cat. Trees Shrubs China) (1924).

*Evonymus micrantha* Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 88 (Enum. Pl. Chin. Bor. 14) (1833).—Non Don.

CHILI: Peking, Pagoda Hill, near Summer Palace, *C. S. Sargent*, September 17, 1903, Peking, city wall, *F. N. Meyer*, no. 930, May 21, 1913; Peking, Temple of Heaven, *N. H. Cowdry*, no. 185, June 13, 1920 and *Dorsett & Dorsett*, no. 1134, November 1, 1924; west of Weichang, *W. Purdom*, no. 99, 1909; Siao Wu tai shan, *J. Hers*, nos. 1528 and 1573, July 14 and 16, 1921; Kalgan, on mountain near temple, *N. H. Cowdry*, no. 1992, August, 1921; without precise locality, *F. N. Meyer*, nos. 205 and 224, October, 1905 (Herb. U. S. Dept. Agric.), *Pere Chanet*, no. 84, in 1919.—See also Maximowicz, l. c. (1859, 1881 and 1882), Hance, l. c., Franchet, l. c. (1883), Hemsley, l. c., Bretschneider, l. c., Loesener, l. c. (1902), Cowdry, l. c., Chung, l. c., and Bunge, l. c.

SHANTUNG: Chifu, English Churchyard, *C. S. Sargent*, September 22, 1903.—See also Franchet, l. c. (1884), Hemsley, l. c., Bretschneider, l. c. 174, Loesener, l. c., (1902 and 1919) and Chung, l. c.

NORTHERN KIANGSU: Suchow fu, Huang tsang yu, alt. 200 m., *J. Hers*, nos. 1067 and 2462, November 1, 1919 and October 3, 1922.

HONAN: Cheng chow, common in the plain, *J. Hers*, no. 13, May 9, 1919.—See also Bailey, l. c., Hers, l. c., and Chung, l. c.

SHANSI: Tun lan shui valley, alt. 1000 m., *J. Hers*, no. 2696, September 19, 1923 (tree more than 2 m. in girth).

SHENSI: foot of Hua shan, *J. Hers*, no. 3030, October 30, 1924.—See also Loesener, l. c. (1902 and 1905).

KANSU: Anting hsien, Tsang kow chen, alt. 2100 m., *J. Hers*, no. 2425, August 26, 1922.—See also Maximowicz, l. c. (1889).

DISTRIBUTION: also Chekiang; Manchuria and Korea.

The specimens from Shensi and Kansu cited above consist of sterile shoots and represent rather extreme forms; the Shensi specimen has rather narrow finely serrulate elliptic-ovate to oblong-lanceolate leaves, the narrower ones only about 2.5 cm. wide and about 8 cm. long, while the Kansu specimen has broadly ovate leaves remarkably deeply and sharply serrate, the teeth about 1 mm. long and toward the base of the leaf becoming elongated and up to 3 mm. long. A similar serration but not as pronounced can be seen in some large leaves accompanying Cowdry's fruiting specimen under no. 185 from near Peking.

*Evonymus fimbriata* Wallich apud Roxburgh, Fl. Ind. ed. Corey, II. 408 (1824).—Loesener in Bot. Jahrb. XXXVI. beibl. LXXXII. 72 (1905).—Chung in Mem. Sci. Soc. China, I. 142 (Cat. Trees Shrubs China) (1924).

SHENSI: Hua tzo pin, *G. Giralddi*, no. 130 (ex Loesener, l. c.).—See also Chung, l. c.

DISTRIBUTION: also Himalayas.

*Evonymus Giralddii* Loesener in Bot. Jahrb. XXIX. 442, t. 5, c (1900).—Hers in Jour. N. China Branch R. As. Soc. LIII. 110 (1922); Liste Ess.

Lign. Honan Sept. 13 (1922).—Chung in Mem. Sci. Soc. China, I. 142 (Cat. Trees Shrubs China) (1924).

*Evonymus Giralddii* var. *α. genuina* Loesener, l. c. 433 (1900); xxx. 465 (1902).

HONAN: Lao kiun shan, alt. 900 m., *J. Hers*, no. 1235, September 23, 1919.—See also *Hers*, l. c., and Chung, l. c.

SHENSI: Tai pei shan, *G. Giralddii*, nos. 216 and 1478 (ex Loesener, l. c.).

—See also Chung, l. c.

DISTRIBUTION: endemic.

*Evonymus Giralddii* var. *ciliata* Loesener in Bot. Jahrb. xxix. 443 (1900); xxx. 465 (1902); xxxvi. beibl. lxxxii. 72 (1905).—Chung in Mem. Sci. Soc. China, I. 143 (Cat. Trees Shrubs China) (1924).

SHENSI: Kuan tou shan, *G. Giralddii*, no. 217 (ex Loesener, l. c. [1902 and 1905]).—See also Chung, l. c.

DISTRIBUTION: also Hupeh.

*Evonymus Giralddii* var. *angustialata* Loesener in Bot. Jahrb. xxxvi. beibl. lxxxii. 72 (1905).—Loesener & Rehder in Sargent, Pl. Wilson. I. 495 (1913).—Chung in Mem. Sci. Soc. China, I. 143 (Cat. Trees Shrubs China) (1924).

*Evonymus fimbriata* Loesener in Bot. Jahrb. xxx. 465 (1902).—Non Wallich.

SHENSI: Tai pei shan, *G. Giralddii*, September 1899, *W. Purdom*, no. 1, in 1910.—See also Loesener, l. c., Loesener & Rehder, l. c., and Chung, l. c.

KANSU: south of Minchow, alt. 2500–2700 m., *W. Purdom*, nos. 1061 and 1075, in 1910; Hsia mo k'ou, near Lichen, alt. 2000–3000 m., *R. C. Ching*, no. 380, July 7, 8, 1923; Gargannar, south of Old Tao chow, alt. 3600–4200 m., *R. C. Ching*, no. 886, August 28–31, 1923.

DISTRIBUTION: also Hupeh and Szechuan.

*Evonymus sanguinea* Loesener in Bot. Jahrb. xxix. 441, t. 5, fig. A, B (1900).—Chung in Mem. Sci. Soc. China, I. 144 (Cat. Trees Shrubs China) (1924).

*Evonymus sanguinea* var. *α. orthoneura* Loesener in Bot. Jahrb. xxix. 442 (1900).

HONAN: Teng feng hsien, Yu tai shan, alt. 800 m., *J. Hers*, no. 203, April 23, 1919; Hwei hsien, Shansi border, *J. Hers*, no. 759, June 19, 1919; Lu shih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1145, September 21, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, nos. 1804 and 1883, September 21, 1921.—See also Chung, l. c.

SHANSI: Chin yuan, alt. 1700 m., *K. Ling*, July 12, 1925, Herb. Univ. Nanking nos. 9286, 9287.

SHENSI: "Mte. Kin-qua-san," *G. Giralddii*, July 10, 1897; "Ta see tsuen," *G. Giralddii*, Sept. 18, 1897; "Mte. Qua in san," *G. Giralddii*, July 16–20, 1897; Lao y san, *G. Giralddii*, 1897.—See also Chung, l. c.

DISTRIBUTION: also Hupeh, Szechuan.

*Evonymus sanguinea* var. *camptoneura* Loesener in Bot. Jahrb. xxix. 442 (1900); xxx. 465 (1902); xxxvi. beibl. lxxxii. 72 (1905).



KANSU: Lotani, south of Minchow, alt. 2450, m., *W. Purdom*, no. 1060, in 1910.

DISTRIBUTION: also Hupeh and Szechuan.

*Evonymus sanguinea* var. *laxa* Loesener in Bot. Jahrb. xxx. 465 (1902); xxxvi. beibl. lxxxii. 72 (1905).

SHENSI: Tai pei shan, *W. Purdom*, no. 13, in 1910.—See also Loesener, l. c.

DISTRIBUTION: endemic.

*Evonymus sanguinea* var. *brevipedunculata* Loesener, in Sargent, Pl. Wilson. i. 495 (1913).—Hers in Jour. N. China Branch R. As. Soc. LIII. 110 (1922); Liste Ess. Lign. Honan Sept. 13 (1922).—Chung in Mem. Sci. Soc. China, i. 144 (Cat. Trees Shrubs China) (1924).

HONAN: Lushih, Hiung eul shan, alt. 1400 m., *J. Hers*, no. 936, October 10, 1919.—See also Hers, l. c., and Chung, l. c.

DISTRIBUTION: also Szechuan.

*Evonymus porphyrea* Loesener in Not. Bot. Gard. Edinb. viii. 2 (1913).—Chung in Mem. Sci. Soc. China, i. 144 (Cat. Trees Shrubs China) (1924).

SHENSI: Tai pei shan, *W. Purdom*, no. 11, in 1910.—See also Chung, l. c.

DISTRIBUTION: also Szechuan, Yunnan.

Chung (l. c.) also cites Kansu, but I have neither seen a specimen from that province nor found a reference in literature except Chung's. I am somewhat in doubt whether Purdom's specimen belongs here, as the petals have dropped and the ovary is only slightly purplish.

*Evonymus shensiensis* Maximowicz in Mém. Biol. xi. 183 (1881); in Bull. Acad. Sci. St. Pétersb. xxvii. 444 (1882); in Act. Hort. Petrop. xi. 96 (1889).—Hemsley in Jour. Linn. Soc. xxiii. 121 (1886).—Bretschneider, Hist. Eur. Bot. Discov. China, 996 (1898).—Loesener in Bot. Jahrb. xxix. 443 (1900); xxx. 464 (1902).—Chung in Mem. Sci. Soc. China, i. 144 (Cat. Trees Shrubs China) (1924).

*Evonymus elegantissima* Hers in Jour. N. China Branch R. As. Soc. LIII. 110 (1922); Liste Ess. Lign. Honan Sept. 13 (1922).—Chung in Mem. Sci. Soc. China, i. 142 (Cat. Trees Shrubs China) (1924), quoad prov. Chili cit.—Non Loesener & Rehder.

CHILI: without precise locality, *Père Chonet*, no. 21, in 1918.—See also Chung, l. c.

HONAN: Chengchow, cultivated, *J. Hers*, no. 38, April 20, 1920.—See also Hers, l. c.

SHENSI: at foot of Hua shan, *J. Hers*, nos. 3029 and 3031, October 30, 1924.—See also Maximowicz, l. c., Hemsley, l. c., Bretschneider, l. c., Loesener, l. c., and Chung, l. c.

DISTRIBUTION: endemic.

The Shensi specimens are in mature fruit which measures 4–4.5 cm. across and has broad-oblong obtuse wings, 1.2–1.5 cm. long; the nut-

brown lustrous seeds 1 or 2 in each locule are short-ellipsoid, 6 mm. long and entirely enclosed by the orange arillus; the larger leaves are elliptic-lanceolate, 5-8 cm. long and 1.8-2.7 cm. wide. *Evonymus elegantissima* Loes. & Rehd. is somewhat similar, but it has much longer peduncles and narrower and longer leaves.

*Evonymus sacchalinensis* Maximowicz in Mém. Biol. xi. 185 (1881); in Bull. Acad. Sci. St. Pétersb. xxix. 446 (1882); Fl. Tangut. 110 (1889).—Hemsley in Jour. Linn. Soc. xxiii. 121 (1886).—Loesener in Bot. Jahrb. xxx. 464 (1902).—Chung in Mem. Sci. Soc. China, i. 144 (Cat. Trees Shrubs China) (1924).

KANSU: alpine region along the Tatung river, *N. Przewalski* (ex Maximowicz, l. c.).—See also Hemsley, l. c., Loesener, l. c., and Chung, l. c.

DISTRIBUTION: also Manchuria, Saghalin, Korea and Japan.

*Evonymus macroptera* Ruprecht in Bull. Phys.-Math. Acad. Sci. St. Pétersb. xv. 359 (1857).—Maximowicz in Act. Hort. Petrop. xi. 97 (1889); Fl. Tangut. 110 (1889).—Loesener in Bot. Jahrb. xxx. 465 (1902).

KANSU: between Mörping and Wuping, *G. N. Potanin* (ex Maximowicz, l. c.).—See also Loesener, l. c.

DISTRIBUTION: also Manchuria, Saghalin, Korea, Japan.

*Evonymus oxyphylla* Miquel in Ann. Mus. Bot. Lugd.-Bat. ii. 86 (1866).—Loesener in Bot. Centralbl. Beih. xxxvii. pt. ii. 152 (1919).—Chung in Mem. Sci. Soc. China, i. 144 (Cat. Trees Shrubs China) (1924).

? SHANTUNG: Cape Ya tau, *Krug*, no. 281 (ex Loesener, l. c.).—See also Chung, l. c.

DISTRIBUTION: also Korea, Japan.

Loesener (l. c.) says that the determination of King's specimen is not quite final as he did not see fruits.

*Evonymus cornuta* Hemsley in Kew Bull. Misc. Inform. 1893, 209.—Loesener in Bot. Jahrb. xxxvi. beibl. lxxxii. 72 (1905).—Loesener & Rehder in Sargent, Pl. Wilson. i. (1913).—Hers in Jour. N. China Branch R. As. Soc. LIII. 110 (1922); Liste Ess. Lign. Honan Sept. 12 (1922).—Chung in Mem. Sci. Soc. China, i. 142 (Cat. Trees Shrubs China) (1924).

HONAN: Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1163, September 21, 1919.—See also Hers, l. c.

SHENSI: Tai pei shan, *W. Purdom*, no. 6, in 1910; Tai pei shan, west valley, *W. Purdom*, no. 432, in 1910.—See also Loesener, l. c., Loesener & Rehder, l. c., and Chung, l. c.

KANSU: Chi shan; near Cheng hsien, *F. N. Meyer*, no. 1781, October 1, 1914 (Herb. U. S. Dept. Agric.).

DISTRIBUTION: also Hupeh, Szechuan.

**Evonymus venosa** Hemsley, in Kew Bull. Misc. Inform. 1893, 210.—Loesener in Bot. Jahrb. xxix. 441 (1900); xxx. 458 (1902); xxxvi. beibl. lxxxii. 72 (1905).—Loesener & Rehder in Sargent, Pl. Wilson. i. 488 (1913).—Chung in Mem. Sci. Soc. China, i. 142 (Cat. Trees Shrubs China) (1924).

SHENSI: "Kin san (Huo kia zaez)," *G. Giraldi*, July 23, 1897.—See also Loesener, l. c., Loesener & Rehder, l. c., and Chung, l. c.

DISTRIBUTION: also Hupeh.

**Evonymus microcarpa** Sprague in Kew Bull. Misc. Inform. (1908).—Loesener & Rehder in Sargent, Pl. Wilson. i. 487 (1913).—Hers in Jour. N. China Branch R. As. Soc. LIII. 110 (1922); Liste Ess. Lign. Honan Sept. 13 (1922).—Chung in Mem. Sci. Soc. China, i. 143 (Cat. Trees Shrubs China) (1924).

*Evonymus chinensis* Lindl. var. *microcarpa* Oliver apud Loesener, in Bot. Jahrb. xxx. 456 (1902); xxxvi. beibl. lxxxii. 71 (1905).

HONAN: Lushih, Tang ho, alt. 100 m., *J. Hers*, no. 954, October 11, 1919.—See also Hers, l. c.

SHENSI: "Mte. Huan tou san" *G. Giraldi*, July, 1899; temple garden at foot of Tai pei shan, *W. Purdom*, no. 12, in 1910.—See also Loesener & Rehder, l. c., Chung, l. c., and Loesener, l. c. (1905).

DISTRIBUTION: also Hupeh and Szechuan.

**Evonymus kiautschovica** Loesener in Bot. Jahrb. xxx. 453 (1902); xxxiv. beibl. lxxv. 49 (1904); in Bot. Centralbl. Beih. xxxvii. pt. II. 151 (1919).—Chung in Mem. Sci. Soc. China, i. 143 (Cat. Trees Shrubs China) (1924).

SHANTUNG: near Tsing tau (ex Loesener, l. c.).—See also Chung, l. c.

DISTRIBUTION: endemic.

**Evonymus patens** Rehder in Sargent, Trees & Shrubs, i. 127, t. 64 (1903).—Chung in Mem. Sci. Soc. China, i. 144 (Cat. Trees Shrubs China) (1924).

*Evonymus kiautschovica* var. *patens* Loesener in Sargent, Pl. Wilson. i. 486 (1913).

SHANTUNG: Chifu, growing over walls, *N. H. Cowdry*, no. 561, July, 1920.

NORTHERN KIANGSU: Silientao Island near Haichow, *J. Hers*, no. 613, May 7, 1921.

HONAN: Lushih, Shan tao ho, alt. 600 m., *J. Hers*, no. 851, October 8, 1919.

DISTRIBUTION: also Kiangsu, Anhwei, Hupeh, Chekiang, Kwangtung.

Loesener refers this species as a variety to *E. kiautschovica* of which I have seen no specimens; according to the description *E. kiautschovica* differs chiefly in its smaller obovate-oblong leaves with the lateral veins obsolete above.

**Evonymus radicans** Sieb. var. *acuta* Rehder in Mitt. Deutsch. Dendr. Ges. xxii. 257 (1913).—F. N. Meyer in U. S. Dept. Agric. Bur. Pl.



Indust. Inv. Seeds Pl. Imp. xxxviii. 71, 72, nos. 37541 and 37546 (1917).—Chung in Mem. Sci. Soc. China, i. 144 (Cat. Trees Shrubs China) (1924).

*Evonymus japonica* Franchet in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 206 (Cat. Pl. Tché-fou) (1884).—Hemsley in Jour. Linn. Soc. xxiii. 120 (1886).—Loesener in Bot. Jahrb. xxx. 453 (1902); xxxvi. beibl. lxxxii. 71 (1905).—Non Thunberg.

*Evonymus japonica* var. *radicans* Loesener in Sargent, Pl. Wilson. i. 485 (1913); in Bot. Centralbl. Beih. xxxvii. pt. ii. 151 (1919).—Hers in Jour. N. China Branch R. As. Soc. liii. 110 (1922); Liste Ess. Lign. Honan Sept. 13 (1922).—Vix Miquel.

*Evonymus japonica* var. *acuta* Rehder in Sargent, Pl. Wilson. i. 485 (1913).—Hers in Jour. N. China Branch R. As. Soc. liii. 110 (1922), sphalmate "acuminata"; Liste Ess. Lign. Honan Sept. 13 (1922).

SHANTUNG: Chifu gardens, N. H. Cowdry, no. 589, July 1, 1920 (sterile, doubtful).—See also Franchet, l. c., Hemsley, l. c., Loesener, l. c. (1902, 1919).

HONAN: Yungning, Tsi li ping, J. Hers, no. 435, May 22, 1919.—See also Hers, l. c., and Chung, l. c.

SHANSI: Tai yuan fu, F. N. Meyer, no. 383, May, 1907.

SHENSI: Huo kio zaez, G. Giraldi, August 3, 1897; Ya tze ko, F. N. Meyer, no. 1694, January 22, 1914; foot of Hua shan, J. Hers, no. 3034, October 30, 1924.—See also Loesener, l. c. (1905), Meyer, l. c., and Chung, l. c.

DISTRIBUTION: also Kiangsu, Hupeh, Szechuan, Yunnan.

There can be little doubt that the plant from Shantung referred by Franchet and by Hemsley to *E. japonica* and that from Shensi referred by Loesener to the same species belongs to *E. radicans* var. *acuta* of which I have seen specimens from both these provinces, while of the true *E. japonica* I have not yet seen a specimen from China. From seeds of Meyer's no. 1694 collected at Ya tze ko plants were raised whose leaves assumed in autumn a deep purple color, differing in this respect from plants raised from seed sent by E. H. Wilson from Hupeh which retained their green color during the winter; this form has been distinguished as *f. colorata* Rehd. (in Jour. Arnold Arb. vii. 30 [1926]).

*Evonymus grandiflora* Wallich in Roxburgh, Fl. Ind. ed. Carey, ii. 404 (1824).—Loesener in Bot. Jahrb. xxx. 452 (1902); xxxvi. beibl. lxxxii. 71 (1905).—Bailey, Gent. Herb. i. 35 (1920).

HONAN: Chikung shan (ex Bailey, l. c.).

SHENSI: Lun san huo and Hua kia wa, G. Giraldi (ex Loesener, l. c.).

DISTRIBUTION: also Hupeh, Kiangsi, Szechuan, Yunnan; Himalayas, Khasia.

*Celastrus angulata* Maximowicz in Mém. Biol. xi. 199 (1881); in Bull. Acad. Sci. St. Pétersb. xxvii. 455 (1882); in Act. Hort. Petrop. xi. 98 (1889).—Hemsley in Jour. Linn. Soc. xxiii. 122 (1886).—Bretschneider, Hist. Eur. Bot. Discov. China, 996 (1898).—Loesener in Bot. Jahrb. xxix. 446 (1900); xxx. 470 (1902).—Meyer in U. S. Dept. Agric. Bur.

Pl. Indust. Inv. Seeds Pl. Imp. XL. 34, no. 38836 (1917).—Hers in Jour. N. China Branch R. As. Soc. LIII. 108 (1922); Liste Ess. Lign. Honan Sept. 6 (1922).—Chung in Mem. Sci. Soc. China, I. 145 (Cat. Trees Shrubs China) (1924).

*Celastrus latifolius* Hemsley in Jour. Linn. Soc. XXIII. 123 (1886).—Maximowicz in Act. Hort. Petrop. XI. 98 (1889).

HONAN: Teng feng hsien, Yu tai shan, alt. 600 m., *J. Hers*, no. 269, June 17, 1919; Yingning Tsi li ping, *J. Hers*, no. 417, May 22, 1919; Hwei hsien, Ta fu sze, *J. Hers*, no. 772, June 16, 1919; Lu shih, Hiung eul shan, alt. 1300 m., *J. Hers*, no. 861, October 9, 1919; Sung hsien, Shih tze miao, alt. 1200 m., *J. Hers*, no. 1288, September 25, 1919; Sung hsien, San kuan miao, alt. 1000 m., *J. Hers*, no. 1314, September 27, 1919; Tsi yuan hsien, alt. 500 m. *J. Hers*, no. 2670, August 23, 1923; Tsi yuan hsien, Tien tan shan, *J. Hers*, no. 1712, September 20, 1921.—See also Hers, I. c., and Chung, I. c.

SHANSI: Hia hsien, Huang lai kow, *J. Hers*, no. 1831, October 2, 1921.

SHENSI: Tai pei shan, *W. Purdom*, nos. 946 and 946a, in 1910; Ta hua shan, *F. N. Meyer*, no. 1843, December 30, 1913 (Herb. U. S. Dept. Agric.); Sze wu hsien, *F. N. Meyer*, no. 1722, September 21, 1914 (Herb. U. S. Dept. Agric.); Shih tan, alt. 850 m., *J. Hers*, no. 2442, October 10, 1922; Tsin ling shan, 60 kilom. south of Sian fu, alt. 1000–1500 m., *J. Hers*, nos. 2932 and 3010, October 20, 1924; Hua shan, alt. 1000–1500 m., *J. Hers*, no. 3097, October 31, 1924.—See also Loesener, I. c., Meyer, I. c., and Chung, I. c.

KANSU: Hoang ho valley (ex Maximowicz, I. c.).—See also Hemsley, I. c., Bretschneider, I. c., Loesener, I. c., and Chung, I. c.

DISTRIBUTION: also Hupeh, Hunan, Kweichow, Szechuan, Yunnan.

*Celastrus hypoleuca* Warburg apud Loesener in Bot. Jahrb. XXIX. 445 (1900); XXXVI. beibl. LXXXII. 72 (1905).—Rehder & Wilson in Sargent, Pl. Wilson. II. 346 (1915).—Hers in Jour. N. China Branch R. As. Soc. LIII. 108 (1922); Liste Ess. Lign. Honan Sept. 6 (1922).—Chung in Mem. Sci. Soc. China, I. 146 (Cat. Trees Shrubs China) (1924).

*Celastrus hypoleucus* f. *β. argutior* Loesener in Bot. Jahrb. XXIX. 445 (1900); XXX. 467 (1902).

HONAN: Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1168, September 21, 1919.—See also Hers, I. c.

SHENSI: "Mte. Kinqua-san, M. Thae-peï-san, Qua-in-san," *G. Giraldu*, July 10, 15–20 and 16, 1897.—See also Loesener, I. c., Rehder & Wilson, I. c., and Chung, I. c.

DISTRIBUTION: also Hupeh, Kweichow, Szechuan.

*Celastrus articulata* Thunberg, Fl. Jap. (1784).—Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 88 (Enum. Pl. Chin. Bor. 14) (1833).—Turczaninov in Bull. Soc. Nat. Moscou, X. no. VII. 150 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 470 (Ind. Fl. Pekin.) (1859); in Mém. Biol. XI. 200 (1881); in Bull. Acad. Sci. St.

Pétersb. xxvii. 456 (1882).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 222 (Pl. David. i. 70) (1883); in Mém. Soc. Sci. Nat. Cherbourg, xxiv. 206 (Cat. Pl. Tché-fou) (1884).—Hemsley in Jour. Linn. Soc. xxiii. 122 (1886), pro parte.—Loesener in Bot. Jahrb. xxix. 446 (1900).—Rehder & Wilson in Sargent, Pl. Wilson. ii. 356 (1915).—Cowdry in Jour. N. China Branch R. As. Soc. liii. 161 (1922).—Chung in Mem. Sci. Soc. China, i. 145 (Cat. Trees Shrubs China) (1924).

*Celastrus orbiculatus* Thunberg, Fl. Jap. p. xlii (1784), nomen nudum.—Loesener in Bot. Jahrb. xxx. 468 (1902); xxxiv. beibl. lxxv. 49 (1904); in Bot. Centralbl. Beih. xxxvii. pt. ii. 152 (1919).

*Celastrus Tatarinowii* Ruprecht in Bull. Phys.-Math. Acad. Sci. St. Pétersb. xv. 357 (1857).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. ix. 470 (Ind. Fl. Pekin.) (1859).

*Celastrus* n. sp. Maximowicz, l. c.

*Celastrus orbiculata* f.  $\gamma$ . *major* Loesener in Bot. Jahrb. xxx. 469 (1902); xxxvi. beibl. lxxxii. 72 (1905).

*Celastrus Loeseneri* Hers. in Jour. N. China Branch R. As. Soc. liii. 108 (1922); Liste Ess. Lign. Honan Sept. 7 (1922).—Non Rehder & Wilson.

CHILI: Peking-Kalgan road, hills near Great Wall, *J. G. Jack*, October 5, 1905; Peking, western hills, *J. Hers*, nos. 1579 and 1589, August 7, 1921; Ch'a tao, *J. Hers*, no. 1543, July 23, 1921; Siao Wu tai shan, *J. Hers*, no. 1544 and 1547, July 14, 1921; Men tow kow, alt. 500 m., *J. Hers*, no. 2553, July 8, 1923; Tung ling Mts., *N. H. Cowdry*, no. 1331; May 18, 1921.—See also Bunge, l. c., Turczaninov, l. c., Maximowicz, l. c., Franchet, l. c., Hemsley, l. c., Bretschneider, l. c., Rehder & Wilson, l. c., Cowdry, l. c., Chung, l. c., and Loesener, l. c. (1902).

SHANTUNG: Bo shan, *F. N. Meyer*, no. 368, September, 1907 (Herb. U. S. Dept. Agric.).

NORTHERN KIANGSU: Liu lin shan, near Hai chow, *J. Hers*, no. 619, May 5, 1921.

HONAN: Siashih, *J. Hers*, no. 345, May 25, 1921; Hwei hsien, Shansi border, *J. Hers*, no. 704, June 19, 1919; Yung ning, Yo tze ping, alt. 1000 m., *J. Hers*, no. 828, October 4, 1919; Sung hsien, Shih tze miao, alt. 1200 m., *J. Hers*, no. 1272, September 25, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, no. 1758, September 21, 1921; Tsi yuan hsien, Pei ting shan, alt. 1200 m., *J. Hers*, no. 2795, October 10, 1923; Teng feng hsien, Yu tai shan, alt. 800 m., *J. Hers*, no. 2791, September 27, 1923; without precise locality, *J. Hers*, no. 26, 1918.—See also Hers, l. c.

SHANSI: Tchao yu, *F. N. Meyer*, no. 1881, July 22, 1914 (Herb. U. S. Dept. Agric.).

SHENSI: Lao y san, Zu lu, *G. Giraldi*, June 4, 1897; without precise locality, *W. Purdom*, no. 945, in 1910.

DISTRIBUTION: also Hupeh; Manchuria, Korea, Japan.

? *Celastrus stylosa* Wallich in Roxburgh, Fl. Ind. ed. Carey, ii. 401 (1824).—Loesener in Bot. Jahrb. xxx. 469 (1902); xxxvi. beibl. lxxxii. 72 (1905).

*Celastrus latifolia* Maximowicz in Act. Hort. Petrop. xi. 98 (1889), pro parte.—Non Hemsley.



SHENSI: Lao y shan, and Tsin ling shan, *G. Giraldi* (ex Loesener, l. c. [1905]).

KANSU: *G. N. Potanin* (ex Loesener, l. c. [1902]).—See also Maximowicz, l. c.

I have seen none of the specimens enumerated by Loesener, and no specimen of *Celastrus* from Kansu. The Kansu plant may possibly be identical with *C. Hookeri* Prain to which, partly, *C. stylosa* Lawson (not Wallich) belongs or it may be a form of *C. orbiculata* Thunb. and the Shensi plant may be *C. Loeseneri* Rehd. & Wils.

*Celastrus Loeseneri* Rehder & Wilson in Sargent, Pl. Wilson. II. 350 (1915).—Chung in Mem. Sci. Soc. China, I. 145 (Cat. Trees Shrubs China) (1924).

SHENSI: Tai pei shan, *W. Purdom*, no. 944, in 1910.—See also Chung, l. c.

KANSU: near Liang tang, *F. N. Meyer*, no. 1673, September 24, 1914 (Herb. U. S. Dept. Agric.).

DISTRIBUTION: also Hupeh and Szechuan.

Some of the Shensi specimens enumerated by Loesener under *C. articulatus* and *C. orbiculatus* (in Bot. Jahrb. XXIX. 446 and XXX. 468) may belong to this species, but the only specimen collected by Giraldi which I have seen belongs to *C. orbiculata*.

*Celastrus flagellaris* Ruprecht in Bull. Phys.-Math. Acad. Sci. St. Pétersb. XV. 357 (1857).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 223 (Pl. David. I. 71) (1883).—Hemsley in Jour. Linn. Soc. XXIII. 123 (1886).—Loesener in Bot. Jahrb. XXX. 470 (1902).—Chung in Mem. Sci. Soc. China, I. 145 (Cat. Trees Shrubs China) (1924).

CHILI: Jehol, *A. David* (ex Franchet, l. c.).—See also Hemsley, l. c., Loesener, l. c., and Chung, l. c.

SHANTUNG: Chifu, *O. Warburg* (ex Loesener, l. c.).

DISTRIBUTION: also Manchuria, Korea, Japan.

#### STAPHYLEACEAE

*Staphylea bumalda* De Candolle Prodr. II. 2 (1825).—Bailey, Gent. Herb. I. 35 (1920).

HONAN: Chi kung shan, *L. H. Bailey*, June 1917 (Gray Herb.).—See also Bailey, l. c.

DISTRIBUTION: Hupeh, Chekiang, Korea, Japan.

*Staphylea holocarpa* Hemsley in Kew Bull. Misc. Inform. 1895, 15.—Rehder & Wilson in Sargent, Pl. Wilson. II. (1914).—Hers in Jour. N. China Brand R. As. Soc. LIII. 116 (1922).—Chung in Mem. Sci. Soc. China, I. 147 (Cat. Trees Shrubs China) (1924).

*Staphylea Emodi* Diels in Bot. Jahrb. XXXVI. beibl. LXXXII. 73 (1905).—Non Wallich.

HONAN: Mienchih, alt. 800 m., *J. Hers*, no. 56, August 20, 1919; Lushih, Hiung eul shan, alt. 1400 m., *J. Hers*, nos. 882, 909, 916, October

10, 1919; Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1184, September 21, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, nos. 1748, 1762, 1900, September 21, 1921.

SHENSI: Lao y san, *G. Giraldi*, June 4, 1897; Kin tou san, *G. Giraldi*, July 14, 1897; Qua in san, *G. Giraldi*, July 16, 1897; northwest of Han cheng hsien, *W. Purdom*, nos. 316, 316\*\*\* in 1910; northwest of Han cheng hsien, Moutan shan, alt. 1400 m., *W. Purdom*, no. 365 in 1910; Tai pei shan, *W. Purdom*, no. 446, in 1910; Kwang yin tang, *F. N. Meyer*, no. 1915, September 15, 1914 (*Herb. U. S. Dept. Agric.*); Lung chow, Kuan shan, alt. 2000 m., *J. Hers*, no. 2345, July 3, 1922; Lung chow, Li kia po, alt. 1400 m., *J. Hers*, no. 2374, July 4, 1922.—See also Rehder & Wilson, l. c., Chung, l. c., and Diels, l. c.

DISTRIBUTION: also Hupeh, Szechuan, Yunnan.

#### ACERACEAE

*Dipteronia sinensis* Oliver in Hooker's *Icon.* xxix. t. 1898 (1889).—Pax in *Bot. Jahrb.* xxxvi. beibl. lxxxii. 73 (1905).—Chung in *Mem. Sci. Soc. China*, i. 73 (*Cat. Trees Shrubs China*) (1924).

HONAN: Yung ning, Tsi li ping, alt. 1000 m., *J. Hers*, no. 1342, September 30, 1919.

SHENSI: Kian san, *G. Giraldi*, August 4, 1897, *Hugh Scallan*, about 1899; Pao ki, *Hugh Scallan*, no. 89, about 1899; Ngo san and Kiong san, *Hugh Scallan*, about 1899.—See also Pax, l. c.

DISTRIBUTION: also Hupeh, Szechuan.

*Acer truncatum* Bunge in *Mém. Div. Sav. Acad. Sci. St. Pétersb.* ii. 84 (*Enum. Pl. Chin. Bor.* 10) (1833).—Turczaninov in *Bull. Soc. Nat. Moscou*, x. no. vii. 150 (1837).—Maximowicz in *Mém. Div. Sav. Acad. Sci. St. Pétersb.* ix. 469 (*Ind. Fl. Pekin.*) (1859); in *Bull. Acad. Sci. St. Pétersb.* xxvi. 444 (1880); in *Mél. Biol.* x. 601 (1880).—Franchet in *Nouv. Arch. Mus. Paris*, sér. 2, v. 228 (*Pl. David.* i. 76) (1883); in *Mém. Soc. Sci. Nat. Cherbourg* xxiv. 208 (1884).—Hemsley in *Jour. Linn. Soc.* xxiii. 142 (1886).—Pax in *Bot. Jahrb.* vii. 234 (1886); xxxiv. beibl. lxxv. 49 (1904); in *Engler Pflanzenr.* iv.-163, 46 (1902).—Bretschneider, *Hist. Eur. Bot. Discov. China*, 331 (1898).—Faber in *Denkschr. Entwickl. Kiautschou*, 33 (1898).—Rehder in *Sargent, Trees & Shrubs*, i. 151, t. 76 (1905).—Loesener in *Bot. Centralbl. Beih.* xxxvii. pt. ii. 152 (1898).—Hers, *Liste Ess. Lign. Honan* Sept. 2 (1922).—Chung in *Mem. Sci. Soc. China*, i. 151 (*Cat. Trees Shrubs China*) (1924).

*Acer laetum*  $\beta$ . *truncatum* Regel in *Bull. Phys.-Math. Acad. Sci. St. Pétersb.* xv. 217 (1857); in *Mél. Biol.* ii. 486 (1857).

CHILI: Peking, *S. W. Williams*, June, 1866, *Herb. Hance*, no. 10508 (*Gray Herb.*), *S. W. Williams*, August, 1876 (*Gray Herb.*), *O. Warburg*, no. 6769, in 1887, *N. H. Cowdry*, in 1919; Peking, Pagoda Hill, Summer Palace, *C. S. Sargent*, September 17, 1903; Peking, Cemetery, *J. G. Jack*,

October 10, 1905; western hills near Peking, *F. N. Meyer*, nos. 192, 215, October, 1905, *J. Hers*, nos. 1396, 2222, May 15, 1921 and October 11, 1922; Po hua shan, *J. Hers*, nos. 1411, 1418, May 1, 1921; Miao feng shan, alt. 1000 m., *J. Hers*, no. 2526, June 17, 1923; Tung ling, *N. H. Cowdry*, no. 1311, May 18, 1921 (sterile); without precise locality, Père Chanet in 1918.—See also Bunge, l. c., Turczaninov, l. c., Maximowicz, l. c., Franchet, l. c. (1883), Hemsley, l. c., Pax, l. c. (1886, 1902), Bretschneider, l. c., Rehder, l. c., and Chung, l. c.

SHANTUNG: Tsing tau and Lau shan (ex Loesener, l. c.).—See also Franchet, l. c. (1884), Hemsley, l. c., Faber, l. c., Pax, l. c., and Rehder, l. c.

NORTHERN KIANGSU: Suchow fu, Huang tsang yu, alt. 200 m., *J. Hers*, nos. 1061, 2809, November, 1, 1919 and October 15, 1923; Siao hsien, Huang tsang yu, alt. 200 m., *J. Hers*, nos. 1016, 1016bis, April 25 and May 26, 1919.

HONAN: Tsi yuan hsien, Tien tan shan, *J. Hers*, no. 1731, September 21, 1921.—See also Hers, l. c.

SHANSI: Hia hsien, Huang lai kow, *J. Hers*, no. 1864, October 2, 1921.

DISTRIBUTION: endemic.

*Acer truncatum* is closely related to the following species and might be considered a variety of it. It differs chiefly in its constantly 5-lobed leaves, truncate at base with the basal lobes only little smaller than the other lateral lobes and only very rarely with an additional small lobe at the base, in the larger flowers and larger fruit with the broad flat nutlet about 1.5 cm. long and only little shorter than the broad wing. In Jack's specimen one branch shows typical fruits, while the other branch has fruit much like that of *A. pictum* with smaller nutlets and longer and narrower wing but the leaves of both branches are identical. From Shantung I have seen no specimens and those from Honan and Shansi are sterile and I therefore am not perfectly sure of their correct identification.

*Acer pictum* Thunb. var. *parviflorum* Schneider, Ill. Handb. Laubholz. II. 225 (1907).—Bailey, Gent. Herb. I. 35 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 106 (1922); Liste Ess. Lign. Honan Sept. 1 (1922).—Chung in Mem. Sci. Soc. China, I. 150 (Cat. Trees Shrubs China) (1924).

*Acer pictum* var. *Mono* Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 229 (Pl. David. I. 77) (1883).—Rehder in Sargent, Trees & Shrubs, I. 177 (1905).

*Acer Lobelii* Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 229 (Pl. David. I. 77) (1883).—Hemsley in Jour. Linn. Soc. XLIII. 140 (1886).—Non Tenore.

*Acer pictum* Hemsley in Jour. Linn. Soc. XLIII. 141 (1886).—Pax in Bot. Jahrb. XXXVI. beibl. LXXXII. 74 (1905).—Chung in Mem. Sci. Soc. China, I. 150 (Cat. Trees Shrubs China) (1924).—Vix Thunberg.

*Acer truncatum* Maximowicz in Act. Hort. Petrop. XI. 109 (1889).—Non Bunge.

*Acer pictum* var. *α. typicum* subvar. 2. *mono* Pax in Engler Pflanzenr. IV.—163, 47 (1902); in Bot. Jahrb. XXXIV. beibl. LXXV. 49 (1904).—Loesener in Bot. Centralbl. Beih. XXXVII. pt. II. 152 (1919).

*Acer laetum* Rehder in Sargent, *Trees & Shrubs*, i. 177 (1905), quoad plantam e Chili.—Non C. A. Meyer.

CHILI: Weichang, *W. Purdom*, nos. 45, 94, in 1910; Hsiao Wu tai shan, *F. N. Meyer*, no. 1314, August 23, 1913, *J. Hers*, no. 1487, July 14, 1921; Siao Wu tai shan, Tieh ling, sze alt. 1300 m., *J. Hers*, no. 2132, October 7, 1922; Siao Wu tai shan, alt. 1500 m., *J. Hers*, no. 2151, October 8, 1922; Po hua shan, *J. Hers*, nos. 1403, 1434, 2240bis, May 1 and July 1, 1921, and October 12, 1922; Huai lai hsien, Yang kia ping, alt. 900 m., *J. Hers*, no. 2098, October 4, 1922.—See also Franchet, l. c., Rehder, l. c., Hemsley, l. c., Pax, l. c., (1902), and Chung, l. c.

SHANTUNG: Tsingtau, *R. Zimmermann*, no. 351, in 1901; *F. N. Meyer*, no. 387, August, 1907.—See also Chung, l. c., Pax, l. c., (1904), and Loesener, l. c.

NORTHERN KIANGSU: Liu lin shan, near Hai chow, *J. Hers*, no. 611, May 5, 1921; Hai chow hills, alt. 200m., *Kang Fu Lai*, *Hers*, no. 2295, October 8, 1922.

HONAN: Chi kung shan, *L. H. Bailey*, June 17, 1917; Teng feng, Yu tai shan, *J. Hers*, no. 301, June 17, 1919; Hwei hsien, Fu tien wang, *J. Hers*, no. 702, June 17, 1919; Hwei hsien, Ta fu sze, *J. Hers*, no. 769, June 16, 1919; Lushih, Hiung eul shan, alt. 1400 m., *J. Hers*, nos. 876, 933, October 10, 1919; Lushih, Kiao ho, alt. 1000 m., *J. Hers*, no. 965, October 12, 1919; Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1216, September 21, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, no. 1747, September 21, 1921; without precise locality, *J. Hers*, no. 4, in 1918.—See also Bailey, l. c., *Hers*, l. c., and Chung, l. c.

SHANSI: Wu tai shan, alt. 1600 m., *J. Hers*, no. 2640, July 31, 1923.

SHENSI: Tsing ling, 60 kilom. south of Sian fu, alt. 1000–1500 m., *J. Hers*, no. 2955, October 20, 1924; Hua shan, alt. 1000 m., *J. Hers*, nos. 3060, 3062, October 31, 1924.—See also Pax, l. c. (1905).

KANSU: Chi shan, near Cheng hsien, *F. N. Meyer*, no. 1757, October 1, 1914.—See also Maximowicz, l. c.

DISTRIBUTION: also Hupeh, Szechuan; Manchuria, Korea, Japan.

All the Chinese specimens and also those from Manchuria and Korea belong to var. *parviflorum* described originally by Maximowicz as *A. mono*. This form is also common in Japan, while the form considered typical by Maximowicz and called var. *typicum* sub-var. *eupictum* by Pax seems less common. That the form with upright or ascending wings constitutes the type of the species is apparently only an assumption of Maximowicz, as Thunberg based his species on sterile specimens of a garden form with variegated leaves. Franchet's *Acer Lobelii* belongs without doubt to *A. pictum parviflorum* and not to the following species of which I have seen no specimens from Chili. There can be little doubt that Maximowicz's *A. truncatum* from Kansu belongs here rather than to typical *A. truncatum*.



*Acer longipes* Franchet apud Rehder in Sargent, *Trees & Shrubs*, 1. 178 (1905).

? *Acer cappadocicum* Hers in Jour. N. China Branch R. As. Soc. LIII. 106 (1922); Liste Ess. Lign. Honan Sept. 1 (1922).—Chung in Mem. Sci. Soc. China 1. 148 (Cat. Trees Shrubs China) (1924).—Non Gleditsch.

HONAN: Yung ning, Tsi li ping, alt. 1000 m., *J. Hers*, no. 1339, September 30, 1919.

SHENSI: near Kwang yin tang, *F. N. Meyer*, no. 1918, September 15, 1914 (Herb. U. S. Dept. Agric.); Lung chow, Sien fo shan, alt. 1000 m., *J. Hers*, no. 2323, July 2, 1922; Lung chow, Kuan shan, alt. 2000 m., *J. Hers*, no. 2338, July 3, 1922.

DISTRIBUTION: also Anhwei and Hupeh.

The specimens cited above are all sterile and differ from the typical form in the presence of small basal lobes on nearly all the leaves and in the absence of undivided leaves, but in their other characters the Shensi specimens agree well with *A. longipes* except that in no. 2323 the lobes are long and narrow. The Honan specimen consists of very vigorous shoots, possibly sprouts from a stump, and has shorter petioles and the basal lobes of the leaves are directed downward so as to form a sagittate base, their texture is thicker and the pubescence on the under side is rather slight; in all these characters this Honan specimen resembles specimens from young seedling plants raised in this Arboretum from seeds of Wilson's no. 434 which is typical *A. longipes*, also the tendency toward a sagittate base is noticeable. I suspect that the enumeration of *A. cappadocicum* Gled. as a Honan plant by Hers (l. c.) and subsequently by Chung was based on this specimen which was named tentatively *A. cappadocicum* in the herbarium, no true *A. cappadocicum* var. *sinicum* being present in the Honan collection made by Hers of which there is a complete set in this herbarium.

*Acer robustum* Pax in Engler, *Pflanzenr.* iv.-162, 79 (1902); in Bot. Jahrb. xxxvi. beibl. LXXXII. 73 (1905).—Rehder in Sargent, *Trees & Shrubs*, 1. 179 (1905).—Hers in Jour. N. China Branch R. As. Soc. LIII. 106 (1922); Liste Ess. Lign. Honan Sept. 2 (1922).—Chung in Mem. Sci. Soc. China, 1. 150 (Cat. Trees Shrubs China) (1924).

*Acer palmatum* ? Bailey, *Gent. Herb.* 1. 35 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 106 (1922); Liste Ess. Lign. Honan Sept. 1 (1922).

HONAN: Lushih, Hiung eul shan, alt. 1400 m., *J. Hers*, no. 908, October 10, 1919; Sung hsien, Shih Tze miao, alt. 1200 m., *J. Hers*, no. 1255, September 25, 1919.—See also Hers, l. c., and ? Bailey, l. c.

SHENSI: Huan ton san, *G. Giralddi*, no. 2116, July 24-26 (1895); Lung chow, Kuan shan, alt. 2000 m., *J. Hers*, no. 2349, July 3, 1922.—See also Pax, l. c., Rehder, l. c., and Chung, l. c.

DISTRIBUTION: also Hupeh.

The specimens cited above are sterile; no. 2349 from Shensi has the lobes of the leaves lobulate and also in no. 908 from Honan they are more deeply and distinctly doubly serrate, while in the type the serration is partly simple and rather close.

*Acer Oliverianum* Pax in Hooker's Icon. xix. sub tab. 1897 (1889).—Rehder in Sargent, Trees & Shrubs, i. 153, t. 77 (1905).

KANSU: Chi shan, near Cheng hsien, *F. N. Meyer*, no. 1757, October 1, 1914 (Herb. U. S. Dept. Agric.).

DISTRIBUTION (ccxl. vars.): Hupeh, Anhwei, and Chekiang.

Meyer's specimen is sterile and differs from typical *A. Oliverianum* in the larger more deeply divided leaves with narrower and longer lobes; it is apparently a vigorous shoot from a young plant and agrees perfectly in its leaves with specimens from young cultivated plants. There is however, the possibility that the specimen represents a form with aberrant leaves of *A. sinense* Pax.

*Acer Giraldui* Pax in Engler, Pflanzenr. iv.-162, 79 (1902); in Bot. Jahrb. xxxvi. beibl. lxxxii. 73 (1905).—Rehder in Sargent, Trees & Shrubs, i. 179 (1905); in Sargent, Pl. Wilson. i. 90 (1911).—Chung in Mem. Sci. Soc. China, i. 149 (Cat. Trees Shrubs China) (1924).

SHENSI: "Prima zona del falde de Thae-pei-san," *G. Giraldui*, no. 2115, August 10-20, 1894 (fruits and photograph of type).—See also Pax, l. c., Rehder, l. c., and Chung, l. c.

DISTRIBUTION: also Szechuan.

*Acer erianthum* Schwerin in Mitt. Deutsch. Dendr. Ges. x. 59 (1901).—Rehder in Sargent, Trees & Shrubs, i. 159, t. 80 (1905).—Pax in Bot. Jahrb. xxxvi. beibl. lxxxii. 73 (1905).—Chung in Mem. Sci. Soc. China, i. 148 (Cat. Trees & Shrubs China) (1924).

SHENSI: Kian san (Lao y san), *G. Giraldui*, August 4, 1897; Ki fong san, *Hugh Scallan*, in 1899.—See also Pax, l. c.

DISTRIBUTION: also Hupeh, Szechuan.

*Acer caudatum* Wall. var. *multiserratum* Rehder in Sargent, Trees & Shrubs, i. 163, t. 82, fig. 11 (1905).

*Acer multiserratum* Maximowicz in Act. Hort. Petrop. xi. 107 (1889).—Bretschneider in Hist. Eur. Bot. Discov. China, 1027 (1898).—Pax in Engler, Pflanzenr. iv.-162, 21 (1902).—Chung in Mem. Sci. Soc. China, i. 149 (Cat. Trees Shrubs China) (1924).

*Acer spicatum* var. *ukurunduense* Pax in Bot. Jahrb. xxxvi. beibl. lxxxii. 73 (1905).—Non Maximowicz.

*Acer caudatum* var. *ukurunduense* Chung in Mem. Sci. Soc. China, i. 148 (Cat. Trees Shrubs China) (1924), quoad plantam e Shensi et Hupeh.—Non Rehder.

SHENSI: Kian san (Lao y san) *G. Giraldui*, August 4, 1897; "Thae pei san, Ngo san, Huan tou san, Ki fong san and Miao wang san," *Hugh Scallan*, in 1899.—See also Pax, l. c., (1905) and Chung, l. c.

KANSU: between Mörping and Wuping, and Idshu shan, *G. N. Potanin* (ex Maximowicz, l. c.).—See also Bretschneider, l. c., Pax, l. c. (1902), Rehder, l. c., and Chung, l. c.

The specimens from Shensi resemble in the more pubescent under side of the leaves var. *ukurunduense* (Trautv. & Mey.) Rehd., but the branchlets are glabrous and the serration is like that of typical var. *multiserratum*.

*Acer ginnala* Maximowicz in Bull. Phys.-Math. Acad. Sci. St. Pétersb. xv. 126 (1857); in Mém. Biol. II. 415 (1857).—Rehder in Sargent, *Trees & Shrubs*, I. 179 (1905).—Loesener in Bot. Centralbl. Beih. xxxvii. pt. II. 152 (1919).—Bailey, *Gent. Herb.* I. 35 (1920).—Hers in Jour. N. China Branch R. As. Soc. LIII. 106 (1922); Liste Ess. Lign. Honan Sept. 1 (1922).—Chung in Mem. Sci. Soc. China, I. 149 (Cat. Trees Shrubs China) (1924).

*Acer Tataricum* var. *Ginnala* Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 67 (Prim. Fl. Amur.) (1859); Enum. Pl. Mongol. 138 (1889).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 228 (Pl. David. I. 76) (1883).<sup>1</sup>

*Acer tataricum* Hemsley in Jour. Linn. Soc. xxiii. 142 (1886)<sup>1</sup>.—Chung in Mem. Sci. Soc. China, I. 150 (Cat. Trees Shrubs China) (1924).

*Acer ginnala* subsp. *Eu-ginnala* Pax in Bot. Jahrb. VII. 185 (1886)<sup>1</sup>.

CHILI: Hsiao Wu tai shan, *F. N. Meyer*, no. 1315, August 23, 1913.—See also Franchet, I. c., Hemsley, I. c., Pax, I. c., Maximowicz, I. c. (1889), Rehder, I. c., and Chung, I. c.

SHANTUNG: Confucius grave, *J. Hers*, no. 1923, June 19, 1922.—See also Loesener, I. c., and Chung, I. c.

NORTHERN KIANGSU: Siao Hsien, Huang tsang yu, *J. Hers*, no. 1051, May 26, 1919; Liu lin shan, near Hai chow, *J. Hers*, nos. 634, 667, May 5, 1921; Hai chow hills, alt. 200 m., *Kang Fu Lai*, *Hers* no. 2260, 2286, October 8, 1922.

HONAN: Chi kung shan, *L. H. Bailey*, June 13, 1917; Mien-chih, alt. 800 m., *J. Hers*, no. 58, August 20, 1919.—See also Bailey, I. c., *Hers*, I. c., and Chung, I. c.

SHANSI: Wu tai shan, alt. 1600 m., *J. Hers*, no. 2639, July 27, 1923; Wen fu ho valley, alt. 1500 m., *J. Hers*, no. 2760, October 2, 1923; Tung tsa, *C. O. Lee*, July 1924. *Herb. Univ. Nanking* no. 6046.

KANSU: between Choni and Lanchow, alt. 2600–3000 m., *R. C. Ching*, no. 1022, Sept. 19–21, 1923.

DISTRIBUTION: also Anhwei, Kiangsi, Chekiang, Hupeh; Mongolia, Manchuria, Korea and Japan.

This species is very closely related to *A. tataricum* L. and some Chinese specimens with ovate-oblong leaves partly destitute of lobes have been referred to that species, but they differ from *A. tataricum* in the leaves being distinctly 3-nerved at the usually rounded base and 3-lobed at the base if lobed, while *A. tataricum* has the leaves generally ovate more or less palminerved at the rounded to cordate base and if lobed, there are usually several pairs of short lobes, the basal pair being smaller; furthermore, in *A. tataricum* the leaves are bright green and remain so when dried while those of *A. ginnala* are deep green above and usually turn to a dark color in drying.

*Acer Buergerianum* Miquel in Ann. Mus. Bot. Lugd.-Bat. II. 88 (1865); Prol. Fl. Jap. 20 (1865).

<sup>1</sup> Franchet cites as the localities for David's nos. 1789, 2612 "Toumet, Sarchi," while Hemsley and Pax (1886) cite Jehol for David's no. 1789.

*Acer trifidum* Hooker & Arnott, Bot. Voy. Beechey, 174 (1841).—Faber in Denkschr. Entwick. Kiautschou, 33 (1898).—Pax in Bot. Jahrb. xxxiv. beibl. lxxv. 49 (1904).—Loesener in Bot. Centralbl. Beih. xxxvii. pt. II. 152 (1919).—Chung in Mem. Sci. Soc. China, I. 150 (Cat. Trees Shrubs China) (1924).—Non Thunberg.

SHANTUNG: without locality (ex Faber, l. c.).—See also Pax, l. c. Loesener, l. c., and Chung, l. c.

The occurrence of this species in Shantung remains doubtful, as Faber's record is not supported by specimens and the later citations are all based on Faber's list.

*Acer oblongum* Wallich apud De Candolle, Prodr. I. 593 (1825).

*Acer oblongum* l. *glaucum* Schwerin in Gartenfl. xlii. 228 (1893).—Pax in Bot. Jahrb. xxxvi. beibl. lxxxii. 73 (1905), sub. var.

SHENSI: Miao uan san, *Hugh Scallan*, in 1898.—See also Pax, l. c.

DISTRIBUTION: also Hupeh, Szechuan, Yunnan, Hunan, Chekiang, Fokien, Kwangtung; Formosa and Himalayas.

*Acer discolor* Maximowicz in Bull. Acad. Sci. St. Pétersb. xxvi. 436 (1880); xxvii. 560, t., fig. 6 (1882); in Mém. Biol. x. 589 (1880); xi. 589, t. fig. 6 (1881); in Act. Hort. Petrop. xi. 109 (1889).—Pax in Bot. Jahrb. vii. 187 (1886); in Engler Pflanzenr. iv.-162, 33 (1902).—Hemsley in Jour. Linn. Soc. xxiii. 140 (1886).—Bretschneider, Hist. Eur. Bot. Discov. China, 996 (1898).—Rehder in Sargent, Trees & Shrubs, I. 180 (1905).—Chung in Mem. Sci. Soc. China, I. 148 (Cat. Trees Shrubs China) (1924).

SHENSI: along the Han River, *P. J. Piasezki* (ex Maximowicz, l. c.).—See also Pax, l. c., Hemsley, l. c., Rehder, l. c., and Chung, l. c.

KANSU: plain in southeastern Kansu, *P. J. Piasezki* (ex Maximowicz, l. c.).—See also Pax, l. c., Hemsley, l. c., Rehder, l. c., and Chung, l. c.

DISTRIBUTION: endemic.

*Acer Davidi* Franchet in Nouv. Arch. Mus. Paris, sér. 2, viii. 212 (Pl. David. II. 30) (1884).—Chung in Mem. Sci. Soc. China, I. 148 (Cat. Trees Shrubs China) (1924).

*Acer Davidii* var. *β. glabrescens* Pax in Engler, Pflanzenr. iv.-162, 36 (1902); in Bot. Jahrb. xxxvi. beibl. lxxxii. 73 (1905).

*Acer Davidii* var. *γ. horizontalis* Pax, l. c., 79 (1902); 73 (1905), pro parte.—Rehder in Sargent, Trees & Shrubs, I. 168 (1905).

SHANSI: Lin kon shan, *K. Ling*, July 13, 1925, Herb. Univ. Nanking, no. 9346.

SHENSI: Mang hua shan, *G. Giraldis*, October to November, 1894; Miao wang san, and without precise locality, *Hugh Scallan*, in 1898; Tai pei shan, *W. Purdom*, no. 949, in 1910.

KANSU: Hsia Mo k'ou, near Lichen, alt. 2000–2300 m., *R. C. Ching*, no. 321, July 7 and 8, 1923.

DISTRIBUTION: also Anhwei, Chekiang, Kwangtung, Hupeh, Szechuan, Yunnan.



*Acer Grosseri* Pax in Engler, Pflanzenr. iv.-162, 80 (1902); in Bot. Jahrb. xxxvi. beibl. lxxxii. 74. (1905).—Rehder in Sargent, Trees & Shrubs, i. 181 (1905).

*Acer Davidii* var. *horizontalis* Pax in Engler, Pflanzenr. iv.-162, 79 (1902). in Bot. Jahrb. xxxvi. beibl. lxxxii. 73 (1905), pro parte.—Hers in Jour. N. China Branch R. As. Soc. LIII. 106 (1922); Liste Ess. Lign. Honan Sept. 1 (1922).

*Acer Davidii* var. *glabrescens* Pax in Bot. Jahrb. xxxvi. beibl. lxxxii. 73 (1905), pro parte.

*Acer Hersii* Rehder, in Jour. Arnold Arb. III. 217 (1922), pro parte.

? CHILI: without precise locality, *Père Chanut*, no. 90, in 1919.—See also Rehder, l. c.

HONAN: Sung hsien, San kuan miao, alt. 1200 m., *J. Hers*, no. 533, May 24, 1919; Lu shih, Lao kiun shan, alt. 200 m., *J. Hers*, no. 1169, September 21, 1919.—See also Pax, l. c., and Rehder, l. c.

SHENSI: Kiu ton san, *G. Giraldis*, July 14, 1897; Kan y san (type locality), Kian san, Ngo san and Thui kio tsuen, *Hugh Scallan*, 1897 and 1899; Lung chow, Kuan shan, alt. 2000 m., *J. Hers*, no. 2359, July 3, 1922; Tsing ling, 60 kilom. south of Sian fu, alt. 1000–1500 m., *J. Hers*, nos. 2950, 2999, October 20, 1924; Hua shan, alt. 1500 m., *J. Hers*, no. 3080, October 31, 1924.—See also Rehder, l. c.

KANSU: Chi shan, near Cheng hsien, *F. N. Meyer*, no. 1758, October 1, 1914.

DISTRIBUTION: also Anhwei and Hupeh.

Though typical *A. Grosseri* is quite distinct from the related *A. Davidii*, there are specimens which seem to be intermediate between the two and which are here referred to the species they most resemble, but I am not sure if not most of the specimens enumerated above under *A. Davidii* should be referred to *A. Grosseri*. No intermediate forms seem to occur in the southern part of the range of *A. Davidii*. *Acer Grosseri* is also closely related to *A. Hersii* Rehd. and most of the specimens referred by me formerly to *A. Hersii* belong apparently to *A. Grosseri*. *Acer Hersii* has larger leaves about as broad as long, always distinctly 3-lobed with acuminate lateral lobes and sometimes even with an additional pair of small basal lobes, while in *A. Grosseri* the lateral lobes are very short not acuminate and often obsolete or entirely wanting on part of the leaves which are broad-ovate to ovate. The forms with ovate-oblong leaves resemble somewhat *A. laxiflorum* Pax, and *A. Maximowiczii* Pax, but these species have an elongated caudate terminal lobe and acuminate finely pointed teeth, the lateral lobes are acuminate and there is often a small basal lobe in the latter species, while in the former which has a closer and finer serration, the lateral lobes are usually shorter and broader and the basal lobes not developed.

*Acer Hersii* Rehder in Jour. Arnold Arb. III. 217 (1922), speciminibus plurimis excludendis.

*Acer* sp. allied to *A. Grosseri* Bailey, Gent. Herb. i. 35 (1920).

HONAN: Teng feng hsien, Yu tai shan, Erh tsu an, alt. 800. m., *J. Hers*, nos. 219, 2780, April 23, 1919 (type), and September 27, 1923; Tsi yuan hsien, Tien tan shan, *J. Hers*, no. 1739, September 21, 1921; Tsi yuan hsien, Pei ting shan, alt. 1200 m., *J. Hers*, no. 2800, October 10, 1923; Cheng chow, cultivated (from the hills), *J. Hers*, no. 2568, August 2, 1923; Chi kung shan, *L. H. Bailey*, June 16, 1917.

DISTRIBUTION: also Anhwei (*R. C. Ching*, no. 2789) and Hupeh (*A. N. Steward*, Herb. Univ. Nanking no. 9768).

When publishing *A. Hersii* as a new species I made the mistake to refer to it a number of specimens related to *A. Davidi*, but differing in their more or less lobed or lobulate leaves; these specimens I now consider to belong to *A. Grosseri* Pax which differs in its ovate to ovate-oblong leaves with two very short acute to obtusish lobes usually obsolete on part of the leaves on the same tree.

*Acer Maximowiczii* Pax in Hooker's Icon. xix. sub t. 1897 (October, 1889); in Engler, Pflanzenr. iv.-162, 70 (1902); in Bot. Jahrb. xxxvi. beibl. lxxxii. 74 (1905).—Chung in Mem. Sci. Soc. China, i. 149 (Cat. Trees Shrubs China) (1924).

*Acer urophyllum Maximowicz* in Act. Hort. Petrop. xi. 105 (November, 1889).—Bretschneider, Hist. Eur. Bot. Discov. China, 1027 (1898).—Rehder in Sargent, Trees & Shrubs, i. 169, t. 84 (1905).

SHENSI: Ngo san and without precise locality, *Hugh Scallan*, 1899; Tai pei shan, *W. Purdom*, nos. 947, 948 (July 2), in 1910.—See also Pax, l. c. (1905), Chung, l. c., and Rehder, l. c.

KANSU: vicinity of Choni, alt. 3100–3300 m., *R. C. Ching*, no. 1009, September 7–15, 1923.—See also Pax, l. c. (1889, 1902), Maximowicz, l. c., Bretschneider, l. c., and Rehder, l. c.

DISTRIBUTION: also Hupeh.

Henry's no. 7557 from Honan which I enumerated in 1905 (l. c.), I have not now before me and I am unable to say whether it was correctly identified which I doubt.

*Acer tetramerum* Pax var. *betulifolium* Rehder in Sargent, Pl. Wilson. i. 95 (1911).—Chung in Mem. Sci. Soc. China, i. 150 (Cat. Trees Shrubs China) (1924).

*Acer betulifolium Maximowicz* in Act. Hort. Petrop. ix. 108 (1889).—Bretschneider, Hist. Eur. Bot. Discov. China, 781, 1027 (1898).—Pax in Engler, Pflanzenr. iv.-162, 10 (1902); in Bot. Jahrb. xxxvi. beibl. lxxxii. 73 (1905).—Rehder in Sargent, Trees & Shrubs, i. 181 (1905).—Chung in Mem. Sci. Soc. China, i. 150 (Cat. Trees Shrubs China) (1924).

SHENSI: Ngo san and Kan y san, *Hugh Scallan*, about 1898; Yen an fu, *W. Purdom*, no. 348, May, 1910; Valley leading to Tai pei shan, alt. 2100 m., *W. Purdom*, no. 438, July, 1910.—See also Rehder, l. c., Chung, l. c., and Pax, l. c. (1905).

KANSU: Tow River, alt. 2700 m., *W. Purdom*, no. 793, in 1910; Min chow, alt. 2100 m., *W. Purdom*, no. 1073, in 1910; Chi shan, near Cheng hsien, *F. N. Meyer*, no. 1778, October 1, 1914; Hsia Mo k'ou, near Lichen, alt. 2000–2300 m., *R. C. Ching*, no. 323, July 7 and 8, 1923;

vicinity of Choni, alt. 3100-3300 m., *R. C. Ching*, no. 1008, September 7-15, 1923; Lian hwa shan mountains, southwest of Ti tao chow, alt. 3000-3300 m., *R. C. Ching*, no. 1010, September 20-21, 1923.—See also Rehder, l. c., Maximowicz, l. c., Bretschneider, l. c., Pax, l. c., and Chung, l. c.

DISTRIBUTION of the var.: also Szechuan; of the species: also Hupeh, Szechuan, and Yunnan.

Some of the specimens as Purdom's nos. 348 and 438 and Scallan's specimen from Ngo san differ in their more deeply lobed and somewhat narrower leaves from typical var. *betulifolium*, but they agree with it in the lack of pubescence.

*Acer Francheti* Pax in Hooker's Icon. xix. sub t. 1897 (1889).—Rehder in Sargent, Trees & Shrubs, i. 175, t. 87 (1905).—Hers in Jour. N. China Branch R. As. Soc. LIII. 106 (1922); Liste Ess. Lign. Honan Sept. 1 (1922).—Chung in Mem. Soc. Sci. China, i. 149 (Cat. Trees Shrubs China) (1924).

HONAN: Sung hsien, San kuan miao, alt. 1200 m., *J. Hers*, no. 523, May 24, 1919; without precise locality, *J. Hers*, no. 46, in 1918.—See also Hers, l. c., and Chung, l. c.

SHENSI: Tai pei shan, *W. Purdom*, no. 950, in 1910; near Kwang yin lang, *F. N. Meyer*, no. 1672, September 15, 1914.—See also Chung, l. c.

DISTRIBUTION: also Hupeh, Szechuan, Yunnan.

*Acer pilosum* Maximowicz in Bull. Acad. Sci. St. Pétersb. xxvi. 436 (1880); xxvii. 560, t., fig. 1-5 (1882); in Mém. Biol. x. 590, 604 (1880); xi. 350, t. fig. 1-5 (1881); in Act. Hort. Petrop. xi. 105 (1889).—Hemsley in Jour. Linn. Soc. xxiii. 141 (1886).—Pax in Bot. Jahrb. vii. 187 (1886); in Engler, Pflanzenr. iv.-163, 12 (1902).—Bretschneider, Hist. Eur. Bot. Discov. China, 996 (1898).—Rehder in Sargent, Trees & Shrubs, i. 181 (1905).—Chung in Mem. Sci. Soc. China, i. 150 (Cat. Trees Shrubs China) (1924).

KANSU: road to Siku from Minchow, *W. Purdom*, no. 764 (seeds only; plants raised in Arnold Arb.; specimens in Herb.).—See also Maximowicz, l. c., Hemsley, l. c., Pax, l. c., Bretschneider, l. c., Rehder, l. c., and Chung, l. c.

DISTRIBUTION: endemic.

*Acer griseum* Pax in Engler, Pflanzenr. iv.-163, 30, fig. 5 (1902).—Hers in Jour. N. China Branch R. As. Soc. LIII. 106 (1922); Liste Ess. Lign. Honan Sept. 1 (1922).—Chung in Mem. Sci. Soc. China, i. 149 (Cat. Trees Shrubs China) (1924).

HONAN: Sung hsien, San kuan miao, alt. 1200 m., *J. Hers*, nos. 544, 1299, May 24, and September 27, 1919; Lushih, Hiung eul shan, alt. 1400 m., *J. Hers*, no. 926, October 10, 1919; Lushih, Lao kiun shan, *J. Hers*, no. 1223, September 21, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, no. 1722, September 20, 1921.—See also Hers, l. c.



SHENSI: Hua shan, *J. Hers*, nos. 3051, 3068, October 31, 1924.

DISTRIBUTION: also Hupeh.

*Acer Henryi* Pax in Hooker's Icon. XIX. t. 1896 (1889).—Pax in Bot. Jahrb. XXXVI. beibl. LXXXII. 73 (1905).—Hers in Jour. N. China Branch R. As. Soc. LIII. 106 (1922); Liste Ess. Lign. Honan Sept. 1 (1922).—Chung in Mem. Sci. Soc. China, I. 149 (Cat. Trees Shrubs China) (1924).

HONAN: Mien chih, alt. 800 m., *J. Hers*, no. 78, November 1, 1919; Teng feng hsien, Yu tai shan, alt. 1000 m., *J. Hers*, no. 273, June 17, 1919; Sung hsien, San kuan miao, alt. 1200 m., *J. Hers*, no. 526, May 24, 1919; Sung hsien, Shih tze miao, *J. Hers*, no. 580, May 26, 1919; Lushih, Tungho, alt. 1000 m., *J. Hers*, no. 984bis, October 14, 1919; Yung ning, Tsi li ping, alt. 1000 m., *J. Hers*, no. 1347, September 30, 1919; Tsi yuan hsien, Tien tan shan, *J. Hers*, nos. 1738, 1766, September 21, 1921; without precise locality, *J. Hers*, no. 21, in 1918.—See also Hers, l. c.

SHENSI: Lung chow, Kuan shan, alt. 2000 m., *J. Hers*, no. 2364, July 3, 1922; Hua shan, alt. 1500 m., *J. Hers*, no. 3078, October 31, 1924.—See also Pax, l. c.

DISTRIBUTION: also Kiangsu, Chekiang, Hupeh and Hunan.

#### HIPPOCASTANACEAE

*Aesculus chinensis* Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 84 (Enum. Pl. Chin. Bor. 10) (1833).—Turczaninov in Bull. Soc. Nat. Moscou, x. pt. VII. 150 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 469 (Ind. Fl. Pekin.) (1859); in Act. Hort. Petrop. XI. 105 (1889).—Hance in Jour. Bot. VIII. 312 (1870).—Hemsley in Jour. Linn. Soc. XXIII. 139 (1886).—Bretschneider, Hist. Eur. Bot. Discov. China, 331 (1898).—Pritzel in Bot. Jahrb. XXIX. 450 (1900).—Purdom in Gard. Chron. ser. 3, LXIV. 346, fig. 150-152 (1912).—Rehder in Sargent, Pl. Wilson. I. 499 (1913).—Hers in Jour. N. China Branch R. As. Soc. LIII. 106 (1922); Liste Ess. Lign. Honan Sept. 2 (1922).—Chung in Mem. Sci. Soc. China, I. 151 (Cat. Trees Shrubs China) (1924).—Plate 2.

CHILI: Peking, *E. Bretschneider*, September 20, 1877; western hills, near Peking, in temple grounds, *W. Purdom*, no. 874, April 30, 1912; western hills near Peking, temple of the Sleeping Buddha, *R. G. Mills*, July 25, 1923 (flowers).—See also Bunge, l. c., Maximowicz, l. c. (1859), Hance, l. c., Hemsley, l. c., Purdom, l. c., Rehder, l. c., and Chung, l. c.

HONAN: Sung hsien, Shih tze miao, alt. 1100, *J. Hers*, no. 485, May 26, 1919; Lushih, Luan chuan, alt. 800 m., *J. Hers*, no. 112, October 7, 1919; Lushih, Lao kiun shan, alt. 2000 m., *J. Hers*, no. 1207, September 21, 1919.—See also Hers, l. c., and Chung, l. c.

SHANSI: Hia hsien, Low shan, *J. Hers*, no. 1876, October 3, 1921.

SHENSI: near Tze wu hsien, south of Sian fu, *F. N. Meyer*, no. 1725, September 1, 1914.—See also Pritzel, l. c.



DISTRIBUTION: endemic.

The specimens from Honan, Shansi and Shensi differ in the longer petiolules from typical *A. chinensis* and may represent a glabrescent or glabrous form of *A. Wilsonii* Rehd. such as occasionally occur in Hupeh and Szechuan; also the flowers of Hers' no. 485 from Honan (the other specimens are sterile) are as large as those of *A. Wilsonii*, but our material is yet too meagre to form a definite opinion and particularly fruits which seem to present well marked characters are wanting from the doubtful localities.

The photograph of two flowering trees reproduced on plate 2 was taken in temple grounds in the western hills near Peking and kindly presented by J. Hers of Peking to this Arboretum.

#### SAPINDACEAE

*Koelreuteria paniculata* Laxmann in Nov. Comm. Acad. Sci. Petrop. xvi. 561 (1772).—Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 85 (Enum. Pl. N. China) (1833).—Turczaninov in Bull. Soc. Nat. Moscou, x. pt. VII. 150 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 469 (Ind. Fl. Pekin.) (1859); in Act. Hort. Petrop. XI. 104 (1889).—David, Jour. Trois. Voy. Chin. I. 148 (1875).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 227 (Pl. David. I. 75) (1883).—Hemsley in Jour. Linn. Soc. XXIII. 138 (1886).—Bretschneider, Hist. Eur. Bot. Discov. China, 49, 159, 850 (1898).—Diels & Pritzl in Bot. Jahrb. XXIX. 450 (1900); XXXVI. beibl. LXXXII. 74 (1905).—Limpricht, Bot. Reis. Hochgeb. Chin. Ost.-Tib., 435 (1922).—Hers in Jour. N. China Branch R. As. Soc. LIII. 111 (1922); Liste Ess. Lign. Honan Sept. 16 (1922).—Chung in Mem. Sci. Soc. China, I. 152 (Cat. Trees Shrubs China) (1924).

CHILI: Peking, *C. A. Skatschkoff*, about 1850 (Gray Herb.), *S. W. Williams*, July 1876 (Gray Herb.); Peking on city wall, *F. N. Meyer*, no. 1013, July 12, 1913; ravine, Meng kow tow, *N. H. Cowdry*, no. 497, June 8, 1920 (sterile).—See also Bunge, l. c., Turczaninov, l. c., Maximowicz, l. c. (1859), Franchet, l. c., Hemsley, l. c., Bretschneider, l. c. (p. 49, 158), Limpricht, l. c., and Chung, l. c.

SHANTUNG: without precise locality, August 9, 1915, Herb. Univ. Nanking no. 529.

HONAN: without locality (ex Hers, l. c.).

SHANSI: Hsu chia chuong, *K. Ling*, no. 9266, July 11, 1925.

SHENSI: many localities, *G. Giraldi* (ex Diels & Pritzel, l. c.).—See also David, l. c., and Bretschneider, l. c. (p. 850).

KANSU: several localities, *G. N. Potanin* (ex Maximowicz, l. c. [1889]).

DISTRIBUTION: also Kiangsu, Yunnan, Korea.

I have not seen any specimens from Shensi and Kansu and therefore I am not sure if the specimens from these provinces or at least those from Kansu belong to this species or the closely related *K. apiculata* Rehd. & Wils. which occurs in Szechuan.

*Xanthoceras sorbifolia* Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 85 (Enum. Pl. Chin. Bor.) (1833).—Turczaninov in Bull. Soc. Nat. Moscou, x. pt. VII. 150 (1837).—Maximowicz in Mém. Div. Sav. Acad. Sci. St. Pétersb. IX. 469 (Ind. Fl. Pekin.) (1859); in Act. Hort. Petrop, XI. 105 (1889); Enum. Pl. Mongol. 138 (1889).—Franchet in Nouv. Arch. Mus. Paris, sér. 2, v. 227 (Pl. David. I. 71) (1833).—Hemsley, in Jour. Linn. Soc. XXIII. 140 (1886).—Bretschneider, Hist. Eur. Bot. Discov. China, 53, 319, 331 (1898).—Diels & Pritzel in Bot. Jahrb. XXIX. 451 (1900).—Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Seeds Pl. Imp. Inv. XII. 73, no. 18264 (1907); XIV. 55, no. 22457 (1909).—Loesener in Bot. Centralbl. Beih. XXXVII. pt. II. 152 (1919).—Hers in Jour. N. China Branch R. As. Soc. LIII. 117 (1922); Liste Ess. Lign. Honan Sept. 34 (1922).—Chung in Mem. Sci. Soc. China, I. 152 (Cat. Trees Shrubs China) (1924).

CHILI: near Peking, *F. N. Meyer*, no. 196, October, 1905 (Gray Herb.); loess cliffs, near Shih-wen, *F. N. Meyer*, no. 1072, August 2, 1913; Siao Wu tai shan, *J. Hers*, no. 1504, July 14, 1921.—See also Bunge, l. c., Turczaninov, l. c., Maximowicz, l. c., Franchet, l. c., Hemsley, l. c., Bretschneider, l. c., Meyer, l. c., and Chung, l. c.

SHANTUNG: Tsimo city, old tree in temple grounds (ex Loesener, l. c.).—See also Chung, l. c.

HONAN: cultivated, without locality (ex Hers, l. c.).

SHANSI: loess cliffs, Tsin tse, south of Tayan fu, *F. N. Meyer*, no. 411, May 5, 1907; loess cliffs, Chao yu, alt. 1200 m., *F. N. Meyer*, no. 1709, July 23, 1914.—See also Chung, l. c.

SHENSI: Tu kio, *G. Giraldi* (ex Diels & Pritzel, l. c.).

KANSU: Ho lan shan Mountains, alt. 1375–2400 m., *R. C. Ching*, no. 122, May 10–25, 1923.

DISTRIBUTION: also Mongolia.

In Shantung and Honan this tree occurs apparently only as a cultivated plant. The first introduction of this beautiful tree into western gardens is usually credited to Father David, who introduced it in 1866 to the Jardin des plantes in Paris, but according to Bretschneider (l. c. 319) there is a tree in the Botanic garden at Nikita, Crimea, about 70 years old in 1898, which was in all probability raised from seed sent by Russian missionaries from Peking about 1825.

(To be continued)





TAIWANIA CRYPTOMERIODES Hayata  
Tree on Ari-san, Formosa,  
with Chamaecyparis formosensis Matsum. in the rear.